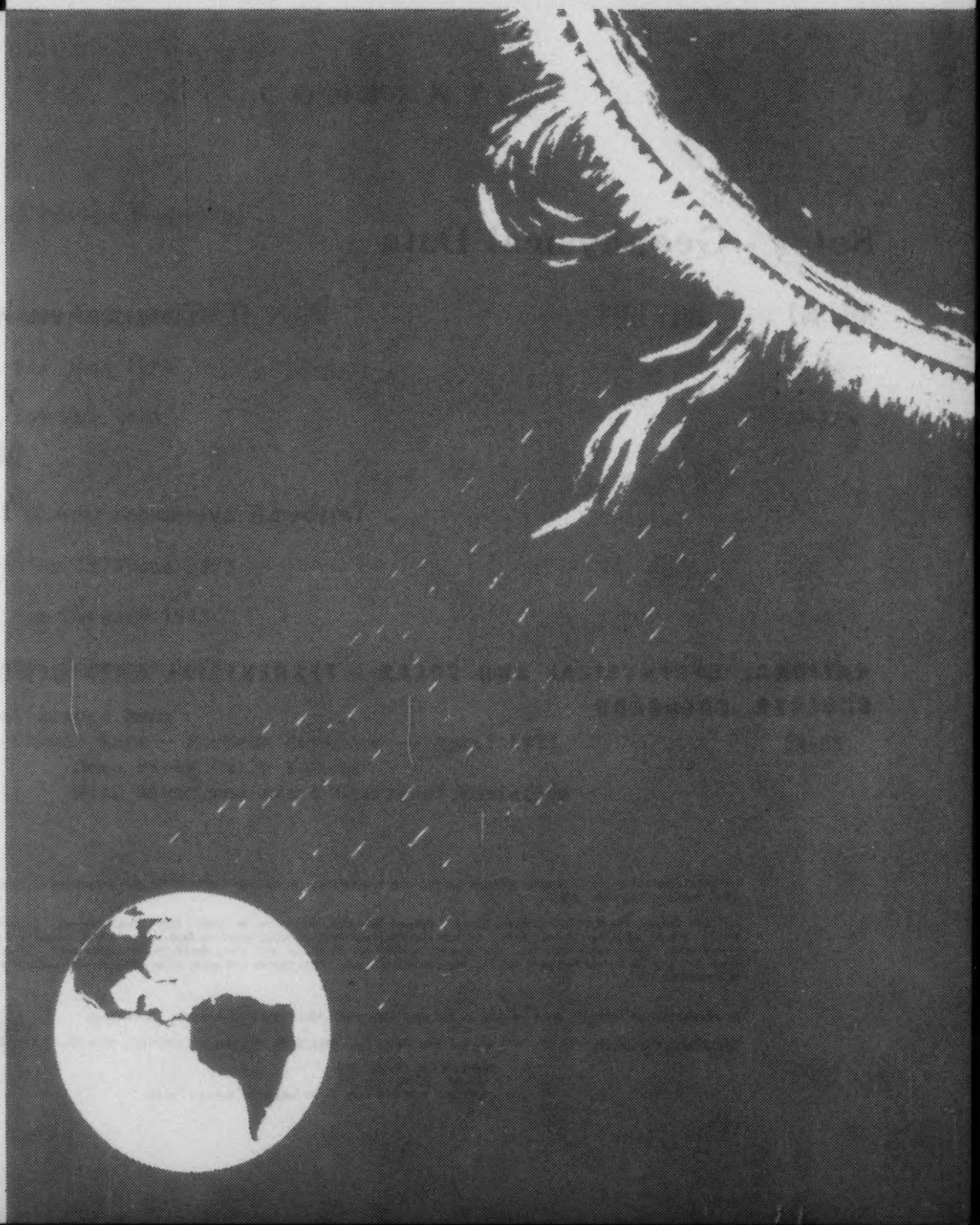
A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

# SOLAR-GEOPHYSICAL DATA
# (comprehensive reports)

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

JULY 1973



NUMBER 347-PART II
DATA FOR
JANUARY 1973
DECEMBER 1972
& MISCELLANEA

U.S. DEPARTMENT OF COMMERCE
Frederick B. Dent, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Robert M. White. Administrator
ENVIRONMENTAL DATA SERVICE
Thomas S. Austin, Director

# Solar - Geophysical Data

NO. 347 JULY 1973

## Part II (Comprehensive Reports)

DATA FOR
JANUARY 1973
DECEMBER 1972
& MISCELLANEA

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
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# SOLAR - GEOPHYSICAL DATA

**No. 347**

**Issued in two parts**

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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For explanations of the data contained herein see "Descriptive Text"published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

# SOLAR FLARES
## Confirmed

### JANUARY 1973

| OBSERV-ATORY | OBSERVED UT | | | | LOCATION | | | | | DURA-TION | IM-POR-TANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | APPROX. | | CENTRAL | MONATH PLAGE | CMP | | | | | | | | | | |
| | DATE JAN | START | END | MAX. PHASE | LAT. | MER. DIST. | DISTANCE | REGION | DAY | MIN. | | CONF. | TYPE | TIME UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hg | MAX. INT. % | |
| GRP47141 | 01 | 0837 | 0845 | 0840 | N05 | E66 | .916 | 12160 | 6.3 | 8 | -N | | | | .70 | | | | 3 3 3 5 |
| TEHR | 01 | 0837 | 0846 | 0841 | N04 | E65 | .909 | 12160 | 6.2 | 9 | -N | 2 | C | | .73 | | | | DE H |
| ATHN | 01 | 0837E | 0846 | 0838 | N06 | E67 | .924 | 12160 | 6.4 | 9D | -N | | 3 | 0838 | .52 | .78 | | | |
| ATHN | 01 | 0837E | 0846 | 0838 | N06 | E67 | .924 | 12160 | 6.4 | 9D | -N | 1 | V | | .50 | | | | DE |
| UPIC | 01 | 0838E | 0843 | 0840 | N05 | E65 | .909 | 12160 | 6.2 | 5D | -B | | | 0840 | .85 | | | | |
| GRP47143 | 01 | 0853 | 0903 | 0855 | N05 | E66 | .916 | 12160 | 6.3 | 10 | --F | | | | .23 | | | | 2 2 2 6 |
| ATHN | 01 | 0852 | 0902 | 0854 | N06 | E67 | .924 | 12160 | 6.4 | 10 | -F | 1 | V | | .17 | | | | DE |
| ATHN | 01 | 0852 | 0902 | 0854 | N06 | E67 | .924 | 12160 | 6.4 | 10 | -F | | 3 | 0854 | .17 | .27 | | | |
| TEHR | 01 | 0853 | 0904 | 0855 | N04 | E65 | .909 | 12160 | 6.2 | 11 | -N | 2 | C | | .28 | | | | DE H |
| 145 TEHR | 01 | 1207E | 1210D | 1208 | N04 | E63 | .894 | 12160 | 6.2 | 3D | --N | 1 | C | | .28 | | | | DE 3 |
| | 01 | 1538 | 1619 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 146 RAHY | 01 | 1619E | 1624D | 1622 | N06 | E61 | .879 | 12160 | 6.3 | 5D | --F | 3 | C | | .28 | | | | DE 1 |
| | 01 | 1624 | 1635 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 01 | 1731 | 1737 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 01 | 1739 | 1846 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47147 | 01 | 1802 | 1807 | 1804 | N14 | E76 | .975 | 12164 | 7.5 | 5 | --F | | | | .38 | | | | 2 2 2 2 |
| PALE | 01 | 1808 | 1805D | 1803 | N14 | E79 | .985 | 12164 | 7.7 | 5D | -N | 2 | C | | .36 | | | | |
| BOUL | 01 | 1804 | 1807 | 1804 | N13 | E72 | .957 | 12164 | 7.2 | 3 | -F | | V | 1804 | .40 | 1.00 | | | |
| | 01 | 2119 | 2129 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 150 RAHY | 02 | 1157 | 1212 | 1201 | N06 | E44 | .706 | 12160 | 5.8 | 15 | --N | 3 | V | | .33 | | | | DE 3 |
| | 02 | 1430 | 1938 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 151 BOUL | 02 | 1644 | 1655 | 1645 | S17 | W88 | .999 | 12153 | 27.1 | 11 | -N | 3 | V | | | | | | 1 |
| 152 MCMA | 02 | 1958 | 2013D | 2001 | S17 | W90 | 1.000 | 12153 | 27.1 | 15D | -N | | C | 2001 | | | | | 1 |
| | 02 | 2034 | 2136 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 153 HUAN | 02 | 2202 | 2207 | 2205 | N13 | E36 | .632 | 12160 | 5.6 | 5 | --F | 1 | P | 2205 | .77 | .97 | | | D 2 |
| 154 CULG | 02 | 2207 | 2240 | 2210 | S17 | W90 | 1.000 | 12153 | 27.2 | 33 | 1N | | C | 2210 | .52 | 1.30 | | | 2 |
| GRP47155 | 03 | 0025 | 0049 | 0033 | N14 | E57 | .858 | 12164 | 7.3 | 24 | -F | | | | .88 | | | | 2 2 2 4 |
| MANI | 03 | 0024 | 00420 | 0032 | N14 | E56 | .849 | 12164 | 7.2 | 18D | -F | 2 | | 0032 | .62 | 1.09 | | | |
| MITK | 03 | 0026 | 0049 | 0033 | N14 | E57 | .858 | 12164 | 7.3 | 23 | 1N | | C | 0033 | 1.13 | 2.20 | | | E |
| | 03 | 0630 | 0643 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47159 | 03 | 1424 | 1437 | 1427 | N15 | E50 | .796 | 12164 | 7.4 | 13 | --N | | | | .52 | | | | 2 2 2 2 |
| MCMA | 03 | 1423 | 1438 | 1426 | N15 | E50 | .796 | 12164 | 7.3 | 15 | -N | | C | 1426 | .52 | .80 | | | E |
| HUAN | 03 | 1425 | 1436 | 1428 | N14 | E49 | .783 | 12164 | 7.3 | 11 | -N | 2 | C | 1428 | .52 | .84 | | | E |
| 160 MCMA | 03 | 1548 | 1625 | 1548 | N15 | E50 | .796 | 12164 | 7.4 | 45 | -N | | C | 1548 | 1.03 | 1.60 | | | EK 1 |
| 161 MCMA | 03 | 1542 | 1555 | 1544 | S17 | W08 | .273 | 12166 | 3.1 | 13 | --F | | C | 1544 | .52 | .50 | | | E 1 |
| 162 MCMA | 03 | 1638 | 1655 | 1633 | N15 | E49 | .786 | 12164 | 7.4 | 25 | --N | | C | 1633 | .41 | .70 | | | D 1 |
| 163 MCMA | 03 | 1801 | 1806D | 1803 | N15 | E52 | .815 | 12164 | 7.7 | 5D | -B | | C | 1803 | .62 | 1.00 | | | E 1 |
| | 03 | 1806 | 2133 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 03 | 2232 | 2245 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47164 | 04 | 0313 | 0337 | 0321 | N15 | E47 | .766 | 12164 | 7.7 | 24 | 1N | | | | 1.81 | | | | 3 3 3 4 |
| VORO | 04 | 0309 | 0344D | 0320 | N16 | E45 | .749 | 12164 | 7.5 | 35D | 1N | | C | 0320 | 2.22 | 3.37 | | 64 | EL |
| MITK | 04 | 0312 | 0330 | 0318 | N14 | E47 | .763 | 12164 | 7.7 | 18 | 1N | | C | 0318 | 2.17 | 3.31 | | | E |
| MANI | 04 | 0318 | 0337 | 0324 | N15 | E48 | .777 | 12164 | 7.7 | 19 | -N | 1 | | 0324 | 1.03 | 1.61 | | | |
| GRP47165 | 04 | 0603 | 0624 | 0607 | N15 | E39 | .679 | 12164 | 7.2 | 21 | --F | | | | .95 | | | | 2 2 2 2 |
| TACH | 04 | 0603 | 0626 | 0607 | N14 | E39 | .674 | 12164 | 7.2 | 23 | -N | | C | 0607 | 1.00 | 1.34 | 2.23 | 54 | E |
| ABST | 04 | 0607E | 0621 | 0607 | N15 | E39 | .679 | 12164 | 7.2 | 14D | -F | | P | 0607 | .90 | 1.20 | | | BOJ |
| GRP47166 | 04 | 0641 | 0703 | 0647 | N15 | E46 | .756 | 12164 | 7.7 | 22 | -N | | | | 1.29 | | | | 3 3 3 3 |
| MANI | 04 | 0639 | 0707 | 0648 | N15 | E45 | .745 | 12164 | 7.7 | 28 | -N | 2 | | 0648 | 1.24 | 1.85 | | | |
| TACH | 04 | 0641 | 0658 | 0647 | N15 | E46 | .756 | 12164 | 7.7 | 17 | -N | | C | 0647 | .83 | 1.24 | 2.40 | 57 | E |
| ABST | 04 | 0643 | 0704 | 0646 | N15 | E46 | .756 | 12164 | 7.7 | 21 | 1N | | P | 0646 | 1.88 | 2.43 | | | E |

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

# SOLAR FLARES
## Confirmed

### JANUARY 1973

| OBSERV-ATORY | OBSERVED UT | | | | LOCATION | | | | | DURA-TION | IM-POR-TANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. LONG. DIST. | CENTRAL DISTANCE | MCMATH PLAGE REGION | CMP DAY | MIN. | | COND. | TYPE | TIME — UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hα | MAX. INT. % | |
| GRP47167 | 04 | 1257 | 1332 | 1259 | N04 | E15 | .287 | 12160 | 5.7 | 35 | 1N | | | | 2.48 | | | | 3 3 3 4 |
| ATHN | 04 | 1255E | 1328 | 1257 | N04 | E15 | .287 | 12160 | 5.7 | 33D | 1N | | 3 | 1257 | 2.38 | 2.27 | | | |
| CAPS | 04 | 1255E | 1324D | | N04 | E15 | .287 | 12160 | 5.7 | 29D | 1N | 2 | V | 1256 | 2.58 | 2.60 | | (176) | C |
| CATA | 04 | 1300 | 1335D | 1300 | N05 | E15 | .295 | 12160 | 5.7 | 35D | 1B | 2 | | 1300 | 2.31 | 2.42 | | (209) | |
| | 04 | 1458 | 1605 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 04 | 1615 | 1621 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 04 | 1645 | 1750 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 04 | 1809 | 1825 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 04 | 1856 | 2134 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 04 | 2139 | 2145 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 04 | 2158 | 2209 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47168 | 05 | 0010 | 0024 | 0015 | N14 | E28 | .542 | 12164 | 7.1 | 14 | --B | | | | .53 | | | | 2 2 2 3 |
| VORO | 05 | 0009 | 0026D | 0014 | N15 | E27 | .537 | 12164 | 7.0 | 17D | -B | | C | 0014 | .74 | .84 | | 62 | EJ |
| MANI | 05 | 0010 | 0022 | 0015 | N13 | E28 | .535 | 12164 | 7.1 | 12 | -N | 2 | | 0015 | .31 | .37 | | | |
| GRP47169 | 05 | 0033 | 0046 | 0035 | N16 | E36 | .650 | 12164 | 7.7 | 13 | -B | | | | 1.18 | | | | 2 2 2 3 |
| MANI | 05 | 0033 | 0045 | 0035 | N14 | E36 | .639 | 12164 | 7.7 | 12 | -N | 2 | | 0035 | .62 | .81 | | | |
| VORO | 05 | 0033 | 0046 | 0035 | N17 | E35 | .645 | 12164 | 7.6 | 13 | -B | | C | 0035 | 1.97 | 2.01 | | 66 | EL |
| 170 VORO | 05 | 0157 | 0204 | 0200 | N06 | E02 | .168 | 12160 | 5.2 | 7 | --N | | C | 0200 | .84 | .84 | | 59 | DHL 3 |
| GRP47172 | 05 | 0938 | 0957 | 0943 | N07 | W03 | .189 | 12160 | 5.2 | 19 | --F | | | | .55 | | | | 2 2 2 7 |
| ARCE | 05 | 0935E | 1000D | | N06 | W02 | .168 | 12160 | 5.2 | 25D | -F | | C | 0945 | .37 | .40 | | | |
| MONT | 05 | 0940 | 0953 | 0943 | N07 | W03 | .189 | 12160 | 5.2 | 13 | -N | | C | 0943 | .72 | | | | H |
| GRP47174 | 05 | 1205 | 1214 | 1211 | N14 | E28 | .542 | 12164 | 7.6 | 9 | --N | | | | .34 | | | | 2 2 2 7 |
| ARCE | 05 | 1200E | 1215D | | N14 | E27 | .529 | 12164 | 7.5 | 15D | -N | | C | 1205 | .46 | .50 | | | T |
| MONT | 05 | 1209 | 1213 | 1211 | N13 | E29 | .547 | 12164 | 7.7 | 4 | -N | | C | 1211 | .21 | | | | |
| GRP47175 | 05 | 1238 | 1334 | 1254 | N14 | E27 | .529 | 12164 | 7.6 | 56 | --F | | | | .43 | | | | 2 2 2 4 |
| RAMY | 05 | 1238 | 1243D | 1243 | N14 | E28 | .542 | 12164 | 7.6 | 5D | -F | 3 | C | | .46 | | | | DE |
| CAPS | 05 | 1241E | 1300D | | N13 | E27 | .522 | 12164 | 7.6 | 19D | -N | 3 | V | 1244 | .40 | .50 | | (195) | |
| RAMY | 05 | 1252 | 1333 | 1254 | N14 | E28 | .542 | 12164 | 7.6 | 41 | -N | 3 | C | | .46 | | | | DE |
| RAMY | 05 | 1254E | 1334 | 1254U | N14 | E26 | .517 | 12164 | 7.5 | 40D | -N | 3 | V | | .52 | | | | DE |
| GRP47176 | 05 | 1352 | 1401 | 1354 | N11 | W04 | .259 | 12160 | 5.3 | 9 | --F | | | | .31 | | | | 2 2 2 4 |
| RAMY | 05 | 1350 | 1405 | 1353 | N11 | W04 | .259 | 12160 | 5.3 | 15 | -F | 3 | V | | .31 | | | | DE |
| MEUD | 05 | 1354 | 1357 | 1354 | N11 | W03 | .255 | 12160 | 5.4 | 3 | -F | | C | 1354 | .31 | .39 | | | D |
| 178 RAMY | 05 | 1502 | 1528 | 1506 | N13 | E28 | .535 | 12164 | 7.7 | 26 | --F | 3 | C | | .28 | | | | DE 4 |
| GRP47179 | 05 | 1514 | 1524 | 1521 | N04 | E06 | .166 | 12160 | 6.1 | 10 | --B | | | | .69 | | | | 2 2 2 3 |
| CAPS | 05 | 1514E | 1527D | 1521 | N03 | E07 | .166 | 12160 | 6.2 | 13D | -B | 1 | V | 1520 | .70 | .70 | | (310) | C |
| HUAN | 05 | 1519E | 1521 | 1520 | N04 | E05 | .156 | 12160 | 6.0 | 2D | -N | 1 | P | 1520 | .67 | .68 | | | D |
| 180 MCMA | 05 | 1607E | 1625D | | N15 | E26 | .525 | 12164 | 7.6 | 18D | --N | | P | 1609 | .62 | .70 | | | E 2 |
| GRP47182 | 05 | 1757 | 1820 | 1759 | N18 | E27 | .562 | 12164 | 7.8 | 23 | --F | | | | .27 | | | | 2 1 1 4 |
| BOUL | 05 | 1757 | 1820 | 1759 | N18 | E27 | .562 | 12164 | 7.8 | 23 | -F | 1 | V | | | | | | |
| PALE | 05 | 1816E | 1819D | 1817U | N12 | E29 | .540 | 12164 | 7.9 | 3D | -F | 2 | C | | .27 | | | | |
| | 05 | 1850 | 1858 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47184 | 05 | 2007 | 2015 | 2010 | N08 | W09 | .251 | 12160 | 5.2 | 8 | --F | | | | .46 | | | | 2 2 2 2 |
| PALE | 05 | 2007 | 2014 | 2010 | N08 | W08 | .241 | 12160 | 5.2 | 7 | -N | 2 | C | | .45 | | | | |
| RAMY | 05 | 2009E | 2016 | 2009 | N07 | W09 | .238 | 12160 | 5.2 | 7D | -F | 4 | V | | .46 | | | | HDE |
| | 05 | 2046 | 2151 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 05 | 2218 | 2228 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 05 | 2240 | 2243 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47185 | 05 | 2243 | 2355 | 2317 | N14 | E22 | .469 | 12164 | 7.6 | 72 | -N | | | | 1.86 | | | | 3 2 2 3 |
| CULG | 05 | 2243E | 2333 | 2322 | N13 | E22 | .460 | 12164 | 7.6 | 50D | 1N | | P | 2322 | 2.89 | 3.00 | | | |
| PALE | 05 | 2312E | 2313D | 2312U | N14 | E22 | .469 | 12164 | 7.6 | 1D | -N | 2 | V | | .83 | | | | DE |
| MANI | 05 | 2329E | 2355 | 2329 | N13 | E20 | .435 | 12164 | 7.5 | 26D | 1F | 1 | | 2329 | 2.89 | 3.19 | | | |

# SOLAR FLARES
## Confirmed

### JANUARY 1973

| OBSERVATORY | OBSERVED UT | | | | LOCATION | | | | | DURATION | IMPORTANCE | OBS. COND. | OBS. TYPE | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | MCMATH PLAGE REGION | CMP DAY | MIN. | | | | TIME UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH HG | MAX. INT. % | |
| GRP47187 | 06 | 0020 | 0042 | 0023 | S13 | W12 | .262 | 12159 | 5.1 | 22 | -N | | | | 1.69 | | | | 3 3 3 5 |
| CULG | 05 | 2358 | 0050 | 0023 | S12 | W10 | .226 | 12159 | 5.2 | 52 | 1B | | C | 0025 | 2.48 | 2.40 | | | |
| MANI | 06 | 0019 | 0045 | 0023 | S13 | W12 | .261 | 12159 | 5.1 | 26 | -N | 2 | | 0023 | 1.03 | 1.07 | | | |
| MITK | 06 | 0028 | 0032 | 0024 | S13 | W13 | .274 | 12159 | 5.0 | 12 | -N | | C | 0024 | 1.55 | 1.60 | | | EG |
| GRP47188 | 06 | 0033 | 0104 | 0037 | N17 | W66 | .929 | 12165 | 1.1 | 31 | -N | | | | .78 | | | | 2 2 2 5 |
| CULG | 05 | 0031 | 0112 | 0037 | N17 | W65 | .923 | 12165 | 1.1 | 41 | 1N | | C | 0047 | 1.24 | 2.50 | | | |
| MANI | 06 | 0034 | 0055 | 0036 | N16 | W66 | .928 | 12165 | 1.1 | 21 | -N | 2 | | 0036 | .31 | .65 | | | |
| GRP47193 | 06 | 1017 | 1042 | 1026 | S04 | E52 | .787 | 12169 | 10.3 | 25 | -N | | | | 1.15 | | | | 3 3 3 6 |
| TEHR | 06 | 1017 | 1042 | 1022 | S03 | E49 | .754 | 12169 | 10.1 | 25 | -N | 2 | C | | 1.09 | | | | F |
| CAPS | 06 | 1019E | 1042D | | S03 | E52 | .787 | 12169 | 10.3 | 23D | 1B | | V | 1022 | 1.70 | 2.90 | | (256) | C |
| ATHN | 06 | 1026E | 1033D | 1029 | S05 | E55 | .818 | 12169 | 10.6 | 7D | -N | 2 | V | | .66 | | | | F |
| GRP47195 | 06 | 1251 | 1255 | 1254 | N12 | E12 | .336 | 12164 | 7.4 | 4 | -B | | | | .94 | | | | 2 2 2 5 |
| TEHR | 06 | 1251 | 1255D | 1253 | N12 | E12 | .336 | 12164 | 7.4 | 4D | -N | 1 | C | | 1.00 | | | | F |
| CATA | 05 | 1255E | 1255D | 1255 | N12 | E12 | .336 | 12164 | 7.4 | | -B | 2 | | 1255 | .87 | .92 | | (214) | |
| GRP47196 | 06 | 1310 | 1440 | 1400 | N13 | E13 | .359 | 12164 | 7.5 | 90 | 1N | | | | 5.51 | | | | 3 3 3 3 |
| CAPS | 06 | 1310E | 1435D | | N12 | E14 | .357 | 12164 | 7.6 | 85D | 1B | 1 | V | 1356 | 2.20 | 2.30 | | (210) | |
| WEND | 06 | 1350E | 1500 | 1403 | N13 | E12 | .349 | 12164 | 7.5 | 70D | 2N | | P | 1403 | 12.00 | | | | |
| RAMY | 06 | 1358 | 1425 | 1356 | N13 | E12 | .349 | 12164 | 7.5 | 35 | 1N | 3 | C | | 2.32 | | | | F |
| GRP47197 | 06 | 1447 | 1513 | 1448 | N13 | E11 | .340 | 12164 | 7.4 | 26 | -F | | | | 2.30 | | | | 2 2 2 5 |
| HUAN | 05 | 1447 | 1450 | 1448 | N12 | E09 | .308 | 12164 | 7.3 | 3 | -F | 1 | P | 1448 | 1.50 | 1.54 | | | D |
| MCMA | 06 | 1451E | 1535D | | N13 | E12 | .349 | 12164 | 7.5 | 44D | 1N | | C | 1451 | 3.09 | 3.10 | | | BF |
| GRP47198 | 06 | 1502 | 1512 | 1505 | N05 | W13 | .268 | 12160 | 5.7 | 10 | -N | | | | 1.76 | | | | 3 3 2 5 |
| WEND | 06 | 1458 | 1515 | | N06 | W11 | .252 | 12160 | 5.8 | 17 | 1N | | V | | 3.00 | | | | |
| HUAN | 06 | 1503 | 1509 | 1504 | N06 | W13 | .278 | 12160 | 5.7 | 6 | -F | 1 | C | 1504 | | | | | D |
| MCMA | 06 | 1504 | 1512 | 1505 | N03 | W14 | .267 | 12160 | 5.6 | 8 | -N | | C | 1505 | .52 | .50 | | | E |
| GRP47199 | 06 | 1539 | 1551 | 1545 | N12 | W18 | .402 | 12160 | 5.3 | 12 | --F | | | | .52 | | | | 2 2 1 4 |
| MCMA | 06 | 1535 | 1555 | 1544 | N12 | W18 | .402 | 12160 | 5.3 | 20 | -F | | C | 1544 | .52 | .50 | | | L |
| HUAN | 06 | 1543 | 1546 | 1545 | N12 | W17 | .391 | 12160 | 5.4 | 3 | -F | 1 | C | 1545 | | | | | D |
| 201 MCMA | 06 | 1801 | 1811 | 1802 | S16 | W51 | .784 | 12166 | 2.9 | 10 | --N | | C | 1802 | .31 | .50 | | | E 3 |
| 202 MCMA | 05 | 1820 | 1825 | 1821 | N05 | W17 | .326 | 12160 | 5.5 | 5 | --N | | C | 1821 | .52 | .50 | | | E 3 |
| GRP47203 | 06 | 1919 | 1928 | 1922 | N10 | W20 | .408 | 12160 | 5.3 | 9 | --F | | | | .56 | | | | 1 1 1 1 |
| RAMY | 06 | 1919 | 1928 | 1922 | N10 | W20 | .408 | 12160 | 5.3 | 9 | -F | 4 | C | | .56 | | | | DE |
| RAMY | 06 | 1922E | 1928 | 1922U | N10 | W20 | .408 | 12160 | 5.3 | 6D | -F | 4 | V | | .52 | | | | DE |
| 204 RAMY | 06 | 2114 | 2129 | 2116 | N07 | W16 | .328 | 12160 | 5.7 | 15 | --F | 3 | V | | .28 | | | | DE 2 |
| | 06 | 2148 | 0046 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47206 | 07 | 1052 | 1131 | 1104 | N11 | E05 | .267 | 12164 | 7.8 | 39 | -B | | | | 1.85 | | | | 3 3 3 4 |
| WEND | 07 | 1052E | 1115D | | N12 | E04 | .279 | 12164 | 7.8 | 23D | 1N | | V | | 3.00 | | | | |
| TEHR | 07 | 1055E | 1131 | 1104 | N11 | E04 | .263 | 12164 | 7.8 | 36D | -B | 3 | V | | 1.65 | | | | DE |
| CAPS | 07 | 1055E | 1130D | 1104 | N11 | E08 | .288 | 12164 | 8.1 | 35D | -B | 3 | V | 1104 | .90 | .90 | | (275) | C |
| GRP47208 | 07 | 1508 | 1520 | 1510 | N12 | E03 | .275 | 12164 | 7.9 | 12 | -N | | | | 1.07 | | | | 2 2 2 3 |
| RAMY | 07 | 1508 | 1519 | 1510 | N12 | E02 | .273 | 12164 | 7.8 | 11 | -F | 3 | C | | .93 | | | | F |
| CAPS | 07 | 1510E | 1520D | | N11 | E04 | .263 | 12164 | 7.9 | 10D | -B | 2 | V | 1512 | 1.20 | 1.20 | | (210) | C |
| 209 RAMY | 07 | 1541 | 1546D | 1543 | N13 | W06 | .304 | 12164 | 7.2 | 5D | --F | 3 | C | | .56 | | | | DE 1 |
| | 07 | 1546 | 1602 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 07 | 1631 | 1657 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47211 | 07 | 2230 | 2308 | 2234 | N13 | W02 | .289 | 12164 | 7.8 | 38 | -N | | | | 1.60 | | | | 3 3 2 3 |
| CULG | 07 | 2228 | 2330 | 2234 | N13 | W05 | .299 | 12164 | 7.8 | 62 | 1B | | C | 2238 | 2.68 | 2.60 | | | |
| BOUL | 07 | 2232 | 2234D | 2234 | N12 | E00 | .270 | 12164 | 7.9 | 2D | -N | 2 | V | | | | | | |
| MANI | 07 | 2235E | 2245 | 2235 | N13 | W02 | .289 | 12164 | 7.8 | 10D | -F | 1 | | 2235 | .52 | .54 | | | |
| GRP47212 | 08 | 0100 | 0146 | 0132 | N09 | W40 | .668 | 12160 | 5.0 | 46 | -N | | | | .80 | | | | 3 3 3 3 |
| CULG | 08 | 0100E | 0150D | 0131 | N10 | W40 | .671 | 12160 | 5.0 | 50D | 1N | | P | 0132 | 1.44 | 2.00 | | | |
| MANI | 08 | 0125 | 0150 | 0133 | N10 | W40 | .671 | 12160 | 5.1 | 25 | -N | 2 | | 0133 | .41 | .54 | | | |
| VORO | 08 | 0128E | 0139 | | N07 | W41 | .673 | 12160 | 5.0 | 11D | -N | | C | 0132 | .56 | .73 | | 57 | E |
| GRP47213 | 08 | 0131 | 0142 | 0133 | N13 | W06 | .306 | 12164 | 7.6 | 11 | --N | | | | .34 | | | | 2 2 2 3 |
| MANI | 08 | 0130 | 0145 | 0134 | N13 | W05 | .301 | 12164 | 7.7 | 15 | -N | 2 | | 0134 | .21 | .22 | | | |
| VORO | 08 | 0131 | 0139 | 0132 | N13 | W06 | .306 | 12164 | 7.6 | 8 | -N | | C | 0132 | .46 | .48 | | 57 | E |
| 215 TEHR | 08 | 0718E | 0723 | 0710U | N09 | W31 | .551 | 12160 | 6.0 | 13D | --N | 2 | V | | .66 | | | | F 3 |

# SOLAR FLARES
## Confirmed

### JANUARY 1973

| OBSERV-ATORY | OBSERVED UT | | | | LOCATION | | | | | DURATION | IMPORTANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | MCMATH PLAGE REGION | CMP DAY | MIN. | | COND. | TYPE | TIME UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hα | MAX. INT. % | |
| GRP47216 | 08 | 1040 | 1045 | 1041 | N14 | W05 | .317 | 12164 | 8.1 | 5 | --N | | | | .19 | | | | 2 2 2 6 |
| ATHN | 08 | 1039 | 1047 | 1041 | N13 | W04 | .297 | 12164 | 8.1 | 8 | -N | 1 | C | | .17 | | | | DE |
| MONT | 08 | 1040 | 1043 | 1040 | N14 | W05 | .317 | 12164 | 8.1 | 3 | -N | | C | 1040 | .21 | | | | |
| 218 RAMY | 08 | 1817 | 1847 | 1819 | N06 | W52 | .797 | 12160 | 4.9 | 30 | -N | 3 | C | | .65 | | | | DE H 1 |
| 219 RAMY | 08 | 1949 | 2000 | 1952 | N09 | W84 | .996 | 12158 | 2.5 | 11 | --F | 3 | C | | .93 | | | | DE 1 |
| 220 RAMY | 08 | 1950E | 2001 | 1952U | N07 | W45 | .722 | 12160 | 5.5 | 11D | --F | 3 | V | | .74 | | | | DE 1 |
| 221 RAMY | 08 | 2022 | 2038 | 2024 | N07 | W48 | .756 | 12160 | 5.2 | 16 | --F | 3 | C | | .37 | | | | DE 2 |
| | 08 | 2055 | 2248 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 222 MANI | 08 | 2303E | 2312 | 2303 | N08 | W48 | .758 | 12160 | 5.4 | 9D | --F | 1 | | 2303 | .41 | .64 | | | 1 |
| | 09 | 0210 | 0216 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 09 | 0228 | 0249 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 09 | 0308 | 0310 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 223 TEHR | 09 | 0354 | 0432 | 0357 | S12 | W87 | .998 | 12158 | 2.6 | 38 | -N | 1 | V | | .99 | | | | DE 2 |
| GRP47224 | 09 | 0447 | 0505 | 0457 | N09 | W53 | .813 | 12160 | 5.2 | 18 | -N | | | | 1.52 | | | | 2 2 2 3 |
| TEHR | 09 | 0447 | 0508 | 0458 | N07 | W52 | .799 | 12160 | 5.3 | 21 | 1N | 3 | C | | 2.10 | | | | F |
| MITK | 09 | 0452E | 0501 | 0455 | N11 | W54 | .827 | 12160 | 5.2 | 9D | -N | | C | 0455 | .93 | 1.50 | | | E |
| | 09 | 1728 | 1737 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47230 | 10 | 0613 | 0712 | | N11 | W68 | .935 | 12160 | 5.2 | 59 | -N | | | | 1.20 | | | | 3 3 3 4 |
| TEHR | 10 | 0608E | 0718 | 0611 | N12 | W66 | .924 | 12160 | 5.3 | 70D | -N | 3 | V | | .99 | | | | DE H |
| TEHR | 10 | 0608E | 0718 | 0619 | N12 | W66 | .924 | 12160 | 5.3 | 70D | -N | 3 | V | | .83 | | | | DE H |
| TACH | 10 | 0618 | 0716 | 0654 | N11 | W70 | .947 | 12160 | 5.0 | 58 | 1F | | C | 0654 | .73 | | 2.21 | 51 | D |
| KODA | 10 | 0640 | 0701 | 0652 | N11 | W68 | .935 | 12160 | 5.2 | 21 | -B | | V | 0640 | 1.88 | 1.90 | 1.96 | | DH |
| GRP47232 | 10 | 0942 | 0959 | 0951 | N10 | W72 | .957 | 12160 | 5.0 | 17 | --F | | | | .22 | | | | 3 3 2 7 |
| ARCE | 10 | 0940E | 1000D | | N10 | W73 | .961 | 12160 | 4.9 | 20D | -F | | C | 0950 | .22 | | | | |
| MONT | 10 | 0944 | 0958 | 1951 | N09 | W71 | .951 | 12160 | 5.1 | 14 | -N | | C | 0951 | .21 | | | | |
| KHAR | 10 | 0947E | 1000D | | N12 | W72 | .958 | 12160 | 5.0 | 13D | 1F | | V | | | | 1.80 | | DH |
| GRP47233 | 10 | 1315 | 1332 | 1320 | N10 | W71 | .951 | 12160 | 5.2 | 17 | -F | | | | .79 | | | | 2 2 2 3 |
| ARCE | 10 | 1315E | 1329 | | N10 | W73 | .961 | 12160 | 5.1 | 14D | -F | | C | 1326 | .31 | | | | |
| LOCA | 10 | 1317E | 1334 | 1320 | N10 | W68 | .935 | 12160 | 5.5 | 17D | 1N | | V | 1320 | 1.26 | 3.30 | | | |
| 234 RAMY | 10 | 1612 | 1622 | 1620 | N08 | W75 | .969 | 12160 | 5.1 | 10 | --F | 3 | C | | .21 | | | | DE 3 |
| GRP47237 | 10 | 1917 | 2016 | 1921 | N13 | W43 | .719 | 12164 | 7.6 | 59 | --F | | | | .83 | | | | 3 2 2 3 |
| MCMA | 10 | 1913 | 2016D | | N13 | W44 | .730 | 12164 | 7.5 | 63D | 1N | | P | 1940 | 1.39 | 2.10 | | | EK |
| RAMY | 10 | 1917 | 1921D | 1920 | N13 | W43 | .719 | 12164 | 7.6 | 4D | -F | 2 | C | | .93 | | | | DE |
| PALE | 10 | 1917 | 1943 | 1922 | N13 | W42 | .708 | 12164 | 7.7 | 26 | -F | 3 | C | | .72 | | | | F |
| 238 PALE | 10 | 2118 | 2126 | 2119 | N07 | W71 | .949 | 12160 | 5.6 | 8 | --F | 3 | C | | .27 | | | | F 2 |
| GRP47239 | 10 | 2136 | 2149 | 2138 | N11 | W69 | .941 | 12160 | 5.7 | 13 | --F | | | | .27 | | | | 2 2 1 4 |
| PALE | 10 | 2135 | 2152 | 2138 | N09 | W71 | .951 | 12160 | 5.6 | 17 | -F | 3 | C | | .27 | | | | |
| BOUL | 10 | 2137 | 2146 | 2137 | N12 | W67 | .930 | 12160 | 5.9 | 9 | -F | 1 | V | | | | | | |
| GRP47240 | 11 | 0013 | 0028 | 0017 | N10 | W78 | .981 | 12160 | 5.2 | 15 | --F | | | | .86 | | | | 2 2 2 4 |
| MITK | 11 | 0010 | 0027 | 0017 | N11 | W82 | .992 | 12160 | 4.9 | 17 | 1F | | C | 0017 | 1.44 | | | | EH |
| PALE | 11 | 0016 | 0028 | 0017 | N08 | W74 | .965 | 12160 | 5.5 | 12 | -F | 3 | C | | .27 | | | | |
| GRP47241 | 11 | 0035 | 0128 | 0047 | N11 | W80 | .988 | 12160 | 5.0 | 53 | 1B | | | | 1.82 | | | | 4 4 4 5 |
| CULG | 11 | 0033 | 0135 | 0049 | N13 | W80 | .988 | 12160 | 5.0 | 62 | 2B | | P | 0052 | 3.09 | 6.20 | | | |
| PALE | 11 | 0036 | 0127 | 0045 | N12 | W77 | .979 | 12160 | 5.2 | 51 | 1B | 3 | C | | 1.08 | | | | Z S |
| MITK | 11 | 0036 | 0122 | 0048 | N11 | W82 | .992 | 12160 | 4.9 | 46 | 1B | | C | 0048 | 1.86 | | | | H |
| MANI | 11 | 0040E | 0110D | 1045 | N09 | W81 | .990 | 12160 | 5.0 | 30D | 1B | 1 | | 0045 | 1.24 | 3.25 | | | |
| 242 PALE | 11 | 0145E | 0156 | 0148 | N10 | W72 | .957 | 12160 | 5.7 | 11D | --F | 2 | C | | .36 | | | | F 3 |
| GRP47244 | 11 | 1132 | 1151 | 1137 | N15 | W53 | .828 | 12164 | 7.5 | 19 | --F | | | | .55 | | | | 3 3 3 6 |
| MONT | 11 | 1131 | 1151 | 1139 | N15 | W52 | .819 | 12164 | 7.6 | 20 | -N | | C | 1139 | .72 | | | | |
| ATHN | 11 | 1133 | 1154 | 1138 | N15 | W53 | .828 | 12164 | 7.5 | 21 | -F | 3 | C | | .66 | | | | F |
| RAMY | 11 | 1133E | 1149 | 1135 | N14 | W53 | .825 | 12164 | 7.5 | 16D | -F | 2 | C | | .28 | | | | DE |
| 246 MCMA | 11 | 1717E | 1730D | | N10 | W90 | 1.000 | 12160 | 5.0 | 13D | -N | | C | 1717 | | | | | A 3 |

# SOLAR FLARES
## Confirmed

### JANUARY 1973

| OBSERV-ATORY | OBSERVED UT | | | | LOCATION | | | | | DURATION | IMPORTANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | HOMATH PLAGE REGION | CMP DAY | MIN. | | COND. | TYPE | TIME UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hg | MAX. INT. % | |
| GRP47248 | 11 | 1853 | 1911 | 1900 | N12 | W62 | .896 | 12164 | 7.1 | 18 | -B | | V | | .49 | | | | 2 2 2 2 |
| PALE | 11 | 1853E | 1911 | 1900 | N12 | W61 | .889 | 12164 | 7.2 | 18D | -B | 4 | V | | .67 | | | | DE |
| HOMA | 11 | 1858E | 19050 | | N12 | W63 | .904 | 12164 | 7.1 | 7D | -N | | C | 1904 | .31 | .70 | | | D |
| 249 PALE | 11 | 2133 | 2142 | 2135U | N13 | W64 | .912 | 12164 | 7.1 | 9 | --B | 3 | V | | .26 | | | | DE 2 |
| 254 MITK | 12 | 0450 | 0508 | 0455 | N08 | W70 | .945 | 12164 | 7.0 | 18 | 1N | | C | 0455 | 1.75 | | | | 4 |
| 255 MITK | 12 | 0506 | 0528 | 0513 | N12 | W65 | .918 | 12164 | 7.3 | 22 | 1N | | C | 0513 | 1.13 | | | | D 4 |
| 256 MITK | 12 | 0548 | 0603 | 0552 | S15 | E36 | .602 | 12176 | 14.9 | 15 | 1B | | C | 0552 | 2.58 | 3.30 | | | 4 |
| GRP47257 | 12 | 0820 | 0850 | 0828 | N14 | W67 | .933 | 12164 | 7.3 | 30 | --F | | | | .19 | | | | 2 1 1 7 |
| ARCE | 12 | 0820E | 0850D | | N14 | W67 | .933 | 12164 | 7.3 | 30D | -F | | C | 0840 | .19 | | | | |
| MONT | 12 | 0824 | 0848 | 0828 | N15 | W66 | .928 | 12164 | 7.4 | 24 | -N | | C | 0828 | .21 | | | | |
| 258 MONT | 12 | 1015 | 1022 | 1016 | N12 | W72 | .958 | 12164 | 7.0 | 7 | --N | | C | 1016 | .21 | | | | 4 |
| GRP47260 | 12 | 1157 | 1301 | 1203 | N12 | W71 | .953 | 12164 | 7.2 | 64 | 1N | | | | 2.31 | | | | 5 5 5 6 |
| MONT | 12 | 1156 | 12300 | 1202 | N13 | W72 | .959 | 12164 | 7.1 | 34D | 1B | | C | 1202 | 1.86 | | | | |
| RAMY | 12 | 1158 | 1245 | 1203 | N12 | W65 | .918 | 12164 | 7.6 | 47 | -B | 2 | V | | 1.03 | | | | DE |
| RAMY | 12 | 1158 | 1245 | 1230 | N12 | W65 | .918 | 12164 | 7.6 | 47 | 1N | 2 | V | | 2.27 | | | | DE |
| CATA | 12 | 1200E | 12000 | 1200 | N13 | W74 | .968 | 12164 | 6.9 | | 1B | 2 | | 1200 | 1.44 | | | (275) | |
| WEND | 12 | 1203E | 1249 | | N11 | W71 | .952 | 12164 | 7.2 | 46D | 1N | | P | | 5.80 | | | | |
| ATHN | 12 | 1207E | 12430 | 1237U | N12 | W74 | .967 | 12164 | 7.0 | 36D | 1N | 2 | C | | .99 | | | | F |
| CATA | 12 | 1210E | 1330 | 1230 | N13 | W76 | .976 | 12164 | 6.8 | 80D | 3B | 2 | | 1230 | 4.63 | | | (316) | |
| GRP47261 | 12 | 1605 | 1617 | 1608 | N12 | W76 | .975 | 12164 | 7.0 | 12 | -F | | | | | | | | 2 2 0 4 |
| HOMA | 12 | 1608 | 1614 | 1605 | N12 | W77 | .979 | 12164 | 6.9 | 14 | -N | | C | 1605 | | | | | D |
| BOUL | 12 | 1610 | 1620 | 1611 | N12 | W74 | .967 | 12164 | 7.1 | 10 | 1F | 2 | V | | | | | | |
| GRP47262 | 12 | 1638 | 1702 | 1647 | N12 | W76 | .975 | 12164 | 7.0 | 24 | -N | | | | .28 | | | | 3 2 1 4 |
| BOUL | 12 | 1633 | 1704 | 1634 | N12 | W74 | .967 | 12164 | 7.1 | 31 | 1F | 1 | V | | | | | | |
| HOMA | 12 | 1635 | 1705 | 1650 | N12 | W77 | .979 | 12164 | 6.9 | 30 | -N | | C | 1650 | | | | | E |
| RAMY | 12 | 1641 | 1659 | 1643 | N11 | W75 | .971 | 12164 | 7.1 | 18 | -N | 4 | V | | .28 | | | | DE |
| GRP47263 | 12 | 1712 | 1724 | 1714 | N12 | W76 | .975 | 12164 | 7.0 | 12 | -F | | | | | | | | 2 2 0 4 |
| HOMA | 12 | 1710 | 1721 | 1713 | N12 | W77 | .979 | 12164 | 6.9 | 11 | -N | | C | 1713 | | | | | D |
| BOUL | 12 | 1713 | 1726 | 1715 | N12 | W74 | .967 | 12164 | 7.2 | 13 | 1F | 2 | V | | | | | | |
| GRP47266 | 12 | 1812 | 1841 | 1823 | N12 | W77 | .979 | 12164 | 7.0 | 29 | -N | | | | 1.27 | | | | 2 2 1 3 |
| HOMA | 12 | 1818 | 1844 | 1823 | N12 | W79 | .985 | 12164 | 6.8 | 34 | -N | | C | 1823 | | | | | E |
| PALE | 12 | 1814 | 1838 | 1822 | N12 | W75 | .971 | 12164 | 7.1 | 24 | 1N | 3 | C | | 1.27 | | | | UDE |
| 267 PALE | 12 | 1939 | 1957 | 1940 | N13 | W79 | .986 | 12164 | 6.9 | 18 | -N | 3 | C | | .45 | | | | DE 3 |
| GRP47268 | 12 | 2003 | 2011 | 2005 | N14 | W69 | .944 | 12164 | 7.7 | 8 | --N | | | | .27 | | | | 2 2 2 3 |
| HOMA | 12 | 2003 | 20100 | 2005 | N13 | W69 | .943 | 12164 | 7.7 | 7D | -N | | P | 2005 | .26 | .99 | | | D |
| PALE | 12 | 2003E | 2011 | 2004 | N14 | W69 | .944 | 12164 | 7.7 | 8D | -N | 3 | C | | .27 | | | | |
| GRP47269 | 12 | 2009 | 2018 | 2010 | N09 | E90 | 1.000 | 12185 | 19.6 | 9 | -B | | | | .41 | | | | 2 2 1 4 |
| RAMY | 12 | 2008 | 20200 | 2009 | N09 | E90 | 1.000 | 12185 | 19.6 | 12D | -N | 3 | V | | | | | | |
| PALE | 12 | 2009 | 2015 | 2011 | N09 | E90 | 1.000 | 12185 | 19.6 | 6 | -B | 3 | V | | .41 | | | | |
| GRP47270 | 12 | 2134 | 2141 | 2135 | S05 | W36 | .586 | 12169 | 10.2 | 7 | --F | | | | .18 | | | | 2 2 2 2 |
| RAMY | 12 | 2134E | 2148 | 2134U | S05 | W37 | .600 | 12169 | 10.1 | 6D | -F | 2 | V | | .15 | | | | DE |
| PALE | 12 | 2134E | 2141 | 2135 | S04 | W35 | .572 | 12169 | 10.3 | 7D | -F | 3 | V | | .21 | | | | |
| 271 VORO | 13 | 0041 | 0049 | 0042 | N09 | W80 | .987 | 12164 | 7.0 | 8 | -B | | C | 0042 | .46 | 1.85 | | 61 | DJL 3 |
| GRP47273 | 13 | 0306 | 0400 | 0313 | N10 | W77 | .978 | 12164 | 7.4 | 54 | 1N | | | | 1.81 | | | | 2 2 2 4 |
| MITK | 13 | 0305 | 04000 | 0314 | N08 | W78 | .981 | 12164 | 7.3 | 55D | 1N | | C | 0314 | 1.86 | | | | |
| VORO | 13 | 0307 | 03310 | 0312 | N11 | W76 | .975 | 12164 | 7.4 | 24D | 1N | | C | 0312 | 1.75 | 5.47 | | 64 | DJL |
| | 13 | 0430 | 0555 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 13 | 1715 | 1729 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47276 | 13 | 2021 | 2039 | 2025 | N14 | W84 | .997 | 12164 | 7.5 | 18 | -N | | | | .36 | | | | 2 2 1 3 |
| PALE | 13 | 2021 | 2037 | 2025 | N15 | W82 | .993 | 12164 | 7.7 | 16 | -N | 3 | C | | .36 | | | | F |
| RAMY | 13 | 2021 | 2041 | | N13 | W85 | .998 | 12164 | 7.5 | 20 | -N | 3 | C | | | | | | DE |
| | 13 | 2139 | 2201 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47278 | 14 | 0103 | 0117 | 0106 | N12 | W89 | 1.000 | 12164 | 7.4 | 14 | 1N | | | | .80 | | | | 2 2 2 5 |
| VORO | 14 | 0102 | 0117 | 0105 | N11 | W88 | 1.000 | 12164 | 7.4 | 15 | 1N | | C | 0105 | .56 | 3.78 | | 60 | EL |
| MITK | 14 | 0103 | 0117 | 0107 | N13 | W90 | 1.000 | 12164 | 7.3 | 14 | 1N | | C | 0107 | 1.03 | | | | D |

# SOLAR FLARES
## Confirmed

JANUARY 1973

| OBSERV-ATORY | OBSERVED UT | | | | LOCATION | | | | | DURA-TION | IM-POR-TANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | MCMATH PLAGE REGION | CMP DAY | MIN. | | COND. | TYPE | TIME — UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hα | MAX. INT. % | |
| GRP47279 | 14 | 2007 | 2025 | 2009 | N15 | E65 | .922 | 12185 | 19.7 | 18 | --F | | | | .37 | | | | 3 3 2 3 |
| RAMY | 14 | 2006 | 2027 | 2007 | N14 | E64 | .914 | 12185 | 19.6 | 21 | -F | 3 | C | | .37 | | | | DE |
| PALE | 14 | 2008 | 2021 | 2010 | N14 | E65 | .921 | 12185 | 19.7 | 13 | -F | 2 | C | | .36 | | | | F |
| BOUL | 14 | 2009E | 2027 | 2010 | N17 | E65 | .925 | 12185 | 19.7 | 18D | -N | | V | | | | | | |
| GRP47282 | 15 | 0212 | 0217 | 0215 | S18 | E42 | .684 | 12186 | 18.2 | 5 | --N | | | | .60 | | | | 2 2 2 5 |
| PALE | 15 | 0212 | 0216 | 0214 | S18 | E40 | .661 | 12186 | 18.1 | 4 | -F | 1 | C | | .27 | | | | |
| VORO | 15 | 0212 | 0217 | 0215 | S17 | E44 | .705 | 12186 | 18.4 | 5 | -8 | 8 | C | 0215 | .93 | 1.27 | | 59 | DGJ |
| GRP47283 | 15 | 0321 | 0328 | 0323 | N10 | E61 | .887 | 12185 | 19.7 | 7 | --8 | | | | .41 | | | | 2 2 2 5 |
| PALE | 15 | 0320 | 0327 | 0323 | N08 | E61 | .884 | 12185 | 19.7 | 7 | -N | 1 | C | | .36 | | | | |
| VORO | 15 | 0321 | 0329D | 0322 | N11 | E60 | .880 | 12185 | 19.6 | 8D | -8 | | C | 0322 | .46 | .92 | | 59 | DL |
| 284 RAMY | 15 | 1128 | 1201 | 1130 | N14 | E66 | .927 | 12185 | 20.4 | 33 | --F | 3 | C | | .46 | | | | DE 4 |
| | 16 | 0216 | 0235 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 16 | 0935 | 0944 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 16 | 1520 | 1545 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 16 | 1547 | 1625 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47285 | 16 | 1814 | 1823 | 1819 | N08 | E35 | .604 | 12185 | 19.4 | 9 | --N | | | | .63 | | | | 2 2 2 3 |
| BOUL | 16 | 1812E | 1824 | 1819 | N09 | E34 | .595 | 12185 | 19.3 | 12D | -N | 2 | V | 1821 | .90 | 1.11 | | | |
| PALE | 16 | 1816 | 1822 | 1819 | N07 | E36 | .612 | 12185 | 19.5 | 6 | -N | 2 | C | | .36 | | | | F |
| 286 PALE | 16 | 1845 | 1853 | 1846 | N07 | E36 | .612 | 12185 | 19.5 | 8 | --F | 2 | C | | .27 | | | | 3 |
| 287 PALE | 16 | 1914 | 1921 | 1916 | N07 | E36 | .612 | 12185 | 19.5 | 7 | --F | 2 | C | | .19 | | | | 3 |
| 288 BOUL | 16 | 2038 | 2050U | 2039 | N09 | E33 | .582 | 12185 | 19.3 | 12D | --F | 3 | V | 2040 | .80 | .95 | | | 2 |
| 290 RAMY | 17 | 1152E | 1158 | 1154 | S12 | E19 | .344 | 12192 | 18.9 | 6D | --F | 2 | C | | .19 | | | | DE 1 |
| | 17 | 1655 | 1717 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47292 | 18 | 0235 | 0254 | 0245 | N09 | E20 | .411 | 12185 | 19.6 | 19 | --F | | | | .40 | | | | 3 3 3 4 |
| KODA | 18 | 0235 | 0249 | | N09 | E19 | .398 | 12185 | 19.5 | 14 | -N | | C | 0235 | .69 | .71 | | | D |
| PALE | 18 | 0243E | 0256 | 0244U | N10 | E20 | .420 | 12185 | 19.6 | 13D | -F | 2 | V | | .21 | | | | |
| MANI | 18 | 0244E | 0256 | 0245 | N09 | E20 | .411 | 12185 | 19.6 | 12D | -F | 2 | | 0245 | .31 | .34 | | | |
| 294 RAMY | 18 | 1225 | 1233 | 1228 | N11 | E16 | .382 | 12185 | 19.7 | 8 | --N | 3 | V | | .93 | | | | DE 3 |
| | 18 | 1537 | 1607 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 18 | 1615 | 1620 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 19 | 1332 | 1334 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 19 | 1421 | 1746 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 300 PALE | 19 | 1921 | 1939 | 1922 | S12 | W11 | .224 | 12192 | 19.0 | 18 | --F | 3 | V | | .21 | | | | 1 |
| GRP47301 | 19 | 2137 | 2154 | 2138 | N12 | W02 | .293 | 12185 | 19.8 | 17 | --F | | | | .93 | | | | 2 2 2 3 |
| BOUL | 19 | 2136 | 2156 | 2138 | N11 | W03 | .279 | 12185 | 19.7 | 20 | -F | 2 | V | 2138 | 1.40 | 1.40 | | | |
| PALE | 19 | 2137 | 2152 | 2138 | N12 | W01 | .292 | 12185 | 19.8 | 15 | -F | 3 | C | | .45 | | | | F |
| 305 CATA | 20 | 1120 | 1150 | 1120 | N10 | W12 | .329 | 12185 | 19.6 | 30 | -N | 2 | | 1120 | 1.16 | 1.22 | | (186) | 4 |
| 306 CATA | 20 | 1120 | 1135 | 1125 | S15 | W64 | .896 | 12191 | 15.7 | 15 | -N | 2 | | 1125 | .69 | 1.56 | | (186) | 4 |
| | 20 | 1619 | 1738 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 20 | 1739 | 1755 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 20 | 1759 | 1812 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 20 | 1813 | 1829 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 20 | 1832 | 1835 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 20 | 1923 | 1949 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 20 | 2028 | 2128 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 20 | 2219 | 2225 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 311 RAMY | 21 | 1149 | 1158 | 1153 | N12 | E49 | .784 | 12197 | 25.2 | 9 | --F | 3 | C | | .46 | | | | DE 3 |

# SOLAR FLARES
## Confirmed

JANUARY 1973

| OBSERVATORY | OBSERVED UT | | | | LOCATION | | | | | | DURATION | IMPORTANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | McMATH PLAGE REGION | CMP DAY | | MIN. | | CONF. | TYPE | TIME UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH MG | MAX. INT. % | |
| 314 VORO | 22 | 0114 | 0126 | 0116 | N14 | E49 | .791 | 12197 | 25.7 | | 12 | --B | | C | 0116 | .46 | .75 | | 63 | OMJ 3 |
| GRP47315 | 22 | 0216 | 0252 | 0228 | N12 | E47 | .764 | 12197 | 25.6 | | 36 | -B | | | | .72 | | | | 3 2 2 4 |
| VORO | 22 | 0216 | 0259 | 0225 | N12 | E45 | .742 | 12197 | 25.5 | | 43 | -B | | C | 0225 | 1.02 | 1.51 | | 63 | EHJK |
| PALE | 22 | 0229E | 0244 | 1231U | N11 | E48 | .771 | 12197 | 25.7 | | 15D | -N | 3 | V | | .41 | | | | F |
| MANI | 22 | 0238E | 0240D | 0240 | N11 | E46 | .750 | 12197 | 25.6 | | 2D | -N | 2 | | 0240 | .62 | .92 | | | |
| GRP47318 | 22 | 0830 | 0843 | 0834 | S16 | W49 | .757 | 12192 | 18.7 | | 13 | --F | | | | .46 | | | | 3 2 2 4 |
| MANI | 22 | 0830E | 0835 | 0830 | S14 | W49 | .755 | 12192 | 18.7 | | 5D | -F | 1 | | 0830 | .41 | .63 | | | |
| ATHN | 22 | 0838E | 0851D | 0837 | S18 | W48 | .750 | 12192 | 18.8 | | 21D | -N | 2 | V | | .50 | | | | F |
| CATA | 22 | 0845 | 0855 | 0845 | S14 | W47 | .732 | 12192 | 18.8 | | 10 | -N | 2 | | 0845 | .58 | .85 | | (186) | |
| 319 RAMY | 22 | 1420 | 14510 | 1423 | N04 | W43 | .694 | 12194 | 19.4 | | 31D | --F | 2 | C | | .28 | | | | DE 2 |
| | 22 | 1551 | 1656 | NO FLARE PATROL | | | | | | | | | | | | | | | | |
| | 22 | 1702 | 1717 | NO FLARE PATROL | | | | | | | | | | | | | | | | |
| 320 MITK | 23 | 0109 | 0125 | 0116 | S14 | W57 | .836 | 12192 | 18.8 | | 16 | --F | | C | 0116 | .83 | 1.50 | | | E 3 |
| | 23 | 1030 | 1115 | NO FLARE PATROL | | | | | | | | | | | | | | | | |
| 321 RAMY | 23 | 1148E | 1148D | | S14 | W64 | .895 | 12192 | 18.7 | | | --F | 3 | C | | | | | | DE 1 |
| | 23 | 1149 | 1210 | NO FLARE PATROL | | | | | | | | | | | | | | | | |
| 322 RAMY | 23 | 1449 | 1515 | 1538U | N10 | E22 | .450 | 12197 | 25.3 | | 26 | --F | 3 | C | | .37 | | | | DE 2 |
| 323 RAMY | 23 | 1651 | 1720 | 1655 | N10 | W54 | .828 | 12185 | 19.7 | | 29 | --N | 3 | C | | .37 | | | | DE 2 |
| | 23 | 2053 | 2106 | NO FLARE PATROL | | | | | | | | | | | | | | | | |
| 324 MANI | 24 | 0647 | 0648D | 0647 | N10 | W62 | .896 | 12185 | 19.6 | | 1D | --N | 1 | | 0647 | .41 | .81 | | | 2 |
| 326 RAMY | 24 | 1414 | 1436 | 1419 | N12 | E05 | .310 | 12197 | 25.0 | | 22 | --N | 4 | C | | .46 | | | | F 3 |
| GRP47327 | 24 | 1612 | 1625 | 1616 | S15 | W78 | .975 | 12192 | 18.8 | | 13 | --F | | | | .30 | | | | 2 2 2 2 |
| RAMY | 24 | 1610 | 1625 | 1615 | S16 | W78 | .974 | 12192 | 18.8 | | 15 | -F | 2 | C | | .28 | | | | DE |
| MCMA | 24 | 1613 | 1619D | 1616 | S14 | W77 | .971 | 12192 | 18.9 | | 6D | -N | | P | 1616 | .31 | 1.30 | | | D |
| GRP47328 | 24 | 2024 | 2046 | 2028 | N10 | E01 | .266 | 12197 | 24.9 | | 22 | --F | | | | .38 | | | | 4 4 4 4 |
| RAMY | 24 | 2023 | 2048D | 2026 | N10 | E00 | .265 | 12197 | 24.8 | | 25D | -F | 3 | C | | .37 | | | | DE |
| PALE | 24 | 2025 | 2046 | 2032 | N09 | E04 | .258 | 12197 | 25.2 | | 21 | -F | 3 | C | | .27 | | | | F |
| BOUL | 24 | 2025 | 2045 | 2025 | N10 | E02 | .267 | 12197 | 25.0 | | 20 | -F | 3 | V | 2025 | .60 | .60 | | | |
| MCMA | 24 | 2026E | 2030D | 2028 | N11 | W01 | .283 | 12197 | 24.8 | | 4D | -N | | C | 2028 | .26 | .30 | | | D |
| | 25 | 0346 | 0352 | NO FLARE PATROL | | | | | | | | | | | | | | | | |
| GRP47330 | 25 | 0836 | 0908 | 0843 | N20 | E36 | .690 | 12199 | 28.1 | | 32 | -N | | | | 1.06 | | | | 3 2 2 6 |
| MONT | 25 | 0836 | 0919 | 0842 | N20 | E36 | .690 | 12199 | 28.1 | | 43 | -N | | C | 0842 | 1.13 | | | | |
| TEHR | 25 | 0842E | 0857 | 0844 | N20 | E35 | .680 | 12199 | 28.0 | | 15D | -N | 3 | V | | .99 | | | | F |
| ARCE | 25 | 0855E | 0910D | | N20 | E34 | .669 | 12199 | 27.9 | | 15D | -N | | C | 0855 | .64 | .80 | | | |
| GRP47331 | 25 | 0940 | 1007 | 0946 | N09 | E90 | 1.000 | 12205 | 1.2 | | 27 | -B | | | | .55 | | | | 4 4 3 8 |
| MONT | 25 | 0938 | 1001 | 0946 | N09 | E90 | 1.000 | 12205 | 1.2 | | 23 | -N | | C | 0946 | .72 | | | | |
| CAPS | 25 | 0941 | 1013D | | N05 | E90 | 1.000 | 12205 | 1.2 | | 32D | -B | 3 | P | | | | | | |
| ARCE | 25 | 0945E | 1008D | | N10 | E90 | 1.000 | 12205 | 1.2 | | 15D | -N | | P | 0945 | .71 | | | | |
| UPIC | 25 | 0951E | 1117 | | N10 | E90 | 1.000 | 12205 | 1.2 | | 86D | -B | | | 0951 | .21 | | | | AK |
| GRP47332 | 25 | 1246 | 1257 | 1248 | N09 | E00 | .250 | 12197 | 25.5 | | 11 | --F | | | | .35 | | | | 3 3 3 4 |
| RAMY | 25 | 1246 | 1255 | 1248 | N08 | W01 | .234 | 12197 | 25.5 | | 9 | -F | 4 | C | | .23 | | | | DE |
| UPIC | 25 | 1247E | 1253D | | N09 | W01 | .250 | 12197 | 25.5 | | 6D | -N | | | 1247 | .42 | | | | |
| CAPS | 25 | 1250E | 1259D | | N10 | E03 | .272 | 12197 | 25.8 | | 9D | -F | 3 | V | 1252 | .40 | .40 | | | C |
| GRP47333 | 25 | 1720 | 1810 | 1725 | S10 | E38 | .501 | 12202 | 28.0 | | 50 | --F | | | | .36 | | | | 3 2 2 3 |
| RAMY | 25 | 1720 | 1750 | 1723 | S10 | E28 | .471 | 12202 | 27.8 | | 30 | -N | 3 | C | | .41 | | | | DE |
| MCMA | 25 | 1720 | 1830 | 1726 | S10 | E31 | .516 | 12202 | 28.0 | | 70 | -F | | C | 1726 | .31 | .40 | | | EH |
| BOUL | 25 | 1739 | 1815 | 1742 | S11 | E30 | .503 | 12202 | 28.0 | | 36 | -F | 3 | V | 1742 | .45 | .50 | | | |
| | 25 | 2058 | 2115 | NO FLARE PATROL | | | | | | | | | | | | | | | | |
| GRP47334 | 25 | 2105 | 2202 | 2114 | S09 | E27 | .454 | 12202 | 27.9 | | 57 | -B | | | | 2.03 | | | | 3 3 3 3 |
| BOUL | 25 | 2105E | 2210 | 2107 | S11 | E28 | .473 | 12202 | 28.0 | | 65D | -N | 3 | V | 2107 | 1.80 | 2.03 | | | |
| PALE | 25 | 2106E | 2200 | 2116U | S09 | E27 | .454 | 12202 | 27.9 | | 54D | -B | 3 | V | | 1.24 | | | | U S |
| PALE | 25 | 2106E | 2200 | 2108U | S09 | E27 | .454 | 12202 | 27.9 | | 54D | -N | 3 | V | | .88 | | | | U S |
| PALE | 25 | 2115E | 2200 | 2116U | S09 | E27 | .454 | 12202 | 27.9 | | 45D | -B | 3 | C | | 1.80 | | | | U S |
| CULG | 25 | 2117E | 2156 | 2119 | S08 | E26 | .437 | 12202 | 27.8 | | 39D | 1B | | P | 2119 | 2.48 | 2.50 | | | |

# SOLAR FLARES
## Confirmed

### JANUARY 1973

| OBSERVATORY | OBSERVED UT | | | | LOCATION | | | | | DURATION | IMPORTANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | MCMATH PLAGE REGION | CMP DAY | MIN. | | COND. | TYPE | TIME UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hα | MAX. INT. % | |
| GRP47335 | 25 | 0056 | 0117 | 0101 | N11 | W15 | .379 | 12197 | 24.9 | 21 | --N | | | | .78 | | | | 2 2 2 5 |
| PALE | 26 | 0056 | 0110 | 0101 | N11 | W13 | .358 | 12197 | 25.1 | 14 | -F | 2 | C | | .63 | | | | F |
| VORO | 26 | 0056 | 0123 | 0100 | N11 | W16 | .390 | 12197 | 24.8 | 27 | -B | | C | 0100 | .93 | .98 | | 63 | EJ |
| GRP47337 | 25 | 0213 | 0232 | 0218 | N10 | W14 | .357 | 12197 | 25.0 | 19 | --N | | | | .62 | | | | 4 4 4 6 |
| MITK | 26 | 0213 | 0220 | 0215 | N10 | W14 | .357 | 12197 | 25.0 | 7 | -F | | C | 0215 | .62 | .70 | | | D |
| PALE | 26 | 0213 | 02280 | 0216U | N11 | W13 | .358 | 12197 | 25.1 | 15D | -N | 1 | C | | .55 | | | | |
| VORO | 25 | 0213 | 0220 | 0215 | N11 | W16 | .390 | 12197 | 24.9 | 7 | -B | | C | 0215 | .65 | .69 | | 65 | DJ |
| MANI | 25 | 0214 | 0232 | 0216 | N09 | W15 | .356 | 12197 | 25.0 | 18 | -N | 2 | | 0216 | .67 | .72 | | | |
| VORO | 26 | 0218 | 0222 | 0219 | N10 | W16 | .379 | 12197 | 24.9 | 4 | -N | | C | 0219 | .56 | .59 | | 58 | DJ |
| VORO | 25 | 0222 | 0248 | 0223 | N11 | W15 | .379 | 12197 | 25.0 | 26 | -B | | C | 0223 | .93 | .98 | | 61 | DHJ |
| 340 MCMA | 25 | 1402 | 1412 | 1406 | N08 | W15 | .345 | 12197 | 25.5 | 10 | --N | | C | 1406 | .21 | .20 | | | D 3 |
| GRP47341 | 26 | 1618 | 1650 | 1621 | S10 | E15 | .267 | 12202 | 27.8 | 32 | --N | | | | .53 | | | | 2 2 2 2 |
| RAMY | 25 | 1615 | 16440 | 1619 | S10 | E15 | .267 | 12202 | 27.8 | 29D | -N | 3 | C | | .65 | | | | DE |
| MCMA | 26 | 1620 | 1650 | 1622 | S10 | E14 | .251 | 12202 | 27.7 | 30 | -N | | C | 1622 | .41 | .40 | | | EH |
| | 26 | 2237 | 2323 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 344 ATHN | 27 | 0927 | 0937 | 0931 | N10 | E69 | .943 | 12205 | 1.6 | 10 | --F | 2 | C | | .33 | | | | DE 3 |
| GRP47345 | 27 | 1118 | 1131 | 1119 | N18 | E07 | .417 | 12199 | 28.8 | 13 | --F | | | | .52 | | | | 2 2 2 5 |
| TEHR | 27 | 1116 | 1126 | 1118 | N17 | E07 | .401 | 12199 | 28.8 | 10 | -F | 3 | C | | .45 | | | | DE |
| CATA | 27 | 1120 | 1135 | 1120 | N18 | E07 | .417 | 12199 | 28.8 | 15 | -N | 2 | | 1120 | .58 | .63 | | (170) | |
| | 27 | 1439 | 1443 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 27 | 1555 | 1601 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 27 | 1642 | 1719 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 27 | 1732 | 1831 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 346 CAPS | 28 | 1012E | 1018D | | N19 | W06 | .429 | 12199 | 28.8 | 6D | -N | 1 | S | 1013 | 1.00 | 1.00 | | | 2 |
| 347 ARCE | 28 | 1023E | 1023D | | N18 | W08 | .422 | 12199 | 27.8 | | --F | | P | 1023 | .60 | .70 | | | 3 |
| GRP47348 | 28 | 1254 | 1330 | 1300 | N10 | E48 | .770 | 12205 | 1.1 | 36 | -N | | | | 1.70 | | | | 2 2 2 2 |
| RAMY | 28 | 1254 | 1330 | 1300 | N10 | E45 | .737 | 12205 | 31.9 | 36 | -N | 3 | C | | 1.39 | | | | F |
| CAPS | 28 | 1302E | 1315D | | N09 | E50 | .788 | 12205 | 1.3 | 13D | 1N | 2 | S | 1305 | 2.00 | 3.40 | | (196) | |
| 349 RAMY | 28 | 1257 | 1314 | 1303U | N11 | W46 | .752 | 12197 | 25.1 | 17 | --F | 3 | C | | .19 | | | | DE 2 |
| 350 RAMY | 28 | 1833 | 1852 | 1835 | N10 | E44 | .726 | 12205 | 1.1 | 19 | --F | 2 | C | | .28 | | | | DE 3 |
| | 28 | 2114 | 2121 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 28 | 2132 | 2138 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 29 | 1115 | 1125 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 29 | 1513 | 1521 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| GRP47353 | 30 | 1308 | 1319 | 1309 | N03 | E44 | .705 | 12207 | 2.8 | 11 | --F | | | | .48 | | | | 2 2 2 3 |
| RAMY | 30 | 1305 | 1322 | 1308 | N04 | E44 | .708 | 12207 | 2.8 | 17 | -F | 3 | C | | .37 | | | | DE |
| CATA | 30 | 1310 | 1315 | 1310 | N01 | E44 | .700 | 12207 | 2.8 | 5 | -F | 1 | | 1310 | .58 | .81 | | (145) | |
| 354 RAMY | 30 | 1734 | 1747 | 1737 | N07 | W77 | .978 | 12197 | 25.0 | 13 | --N | 3 | C | | .19 | | | | DE 2 |
| | 30 | 2327 | 2344 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| | 31 | 0200 | 0202 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 356 RAMY | 31 | 1453E | 1512 | 1456 | N12 | E07 | .330 | 12205 | 1.1 | 19D | --F | 2 | C | | .37 | | | | DE 2 |
| | 31 | 1603 | 1611 | NO FLARE PATROL | | | | | | | | | | | | | | | |
| 357 RAMY | 31 | 1901 | 1918 | | S04 | E88 | .999 | 12212 | 7.4 | 17 | --F | 2 | C | | | | | | DE 2 |
| 358 PALE | 31 | 2032 | 2039 | 2034 | N11 | E05 | .303 | 12205 | 1.2 | 7 | --F | 2 | C | | .45 | | | | F 2 |
| GRP47359 | 31 | 2048 | 2102 | 2049 | S06 | E86 | .997 | 12212 | 7.3 | 14 | -N | | | | .27 | | | | 2 2 1 2 |
| PALE | 31 | 2047 | 2100 | 2049 | S08 | E84 | .993 | 12212 | 7.2 | 13 | -N | 2 | C | | .27 | | | | |
| RAMY | 31 | 2048 | 21030 | 2049 | S04 | E87 | .998 | 12212 | 7.4 | 15D | -N | 3 | C | | | | | | DE |
| 360 PALE | 31 | 2218 | 2228 | 2222 | S08 | E83 | .991 | 12212 | 7.2 | 10 | --F | 2 | C | | .27 | | | | 2 |

# SOLAR FLARES
## Unconfirmed
### JANUARY 1973

| OBSERVATORY | OBSERVED UT | | | | LOCATION | | | | | DURATION | IMPORTANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | NOAA/TH PLAGE REGION | CMP DAY | MIN. | | COND. | TYPE | TIME UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hz | MAX. INT. % | |
| 140 MANI | 01 | 0035 | 0100 | 0043 | S11 | E38 | .512 | 12166 | 3.3 | 25 | -F | 2 | | 0043 | .31 | .36 | | | 3 |
| 142 ISTA | 01 | 0845 | 0905 | | S17 | W02 | .244 | 12166 | 1.2 | 20 | -N | | | | | | | | E 7 |
| 144 UPIC | 01 | 0915E | 0920 | 0915 | N06 | E55 | .826 | 12160 | 5.5 | 50 | -F | | | 0915 | .63 | | | | 5 |
| 148 MANI | 02 | 0350 | 0410 | 0352 | N06 | E49 | .763 | 12160 | 5.8 | 20 | -F | 2 | | 0352 | .52 | .80 | | | 6 |
| 149 CATA | 02 | 0800E | 0800D | 0800 | N13 | E65 | .917 | 12164 | 7.2 | | -N | 1 | | 0800 | .58 | 1.45 | | (158) | 7 |
| 156 MITK | 03 | 0115 | 0220 | 0135 | S17 | W90 | 1.000 | 12153 | 27.3 | 65 | 1N | | C | 0135 | .72 | | | | DG 4 |
| 157 MITK | 03 | 0238 | 0320 | 0240 | S17 | W90 | 1.000 | 12153 | 27.4 | 42 | 1N | | C | 0240 | .83 | | | | DG 3 |
| 158 CATA | 03 | 0845 | 09050 | 0850 | S16 | W05 | .236 | 12166 | 3.0 | 200 | -B | 1 | | 0850 | .87 | .89 | | (204) | 5 |
| 171 MONT | 05 | 0833 | 0837 | 0836 | N07 | W61 | .183 | 12160 | 5.3 | 4 | -F | | C | 0836 | .21 | | | | H 8 |
| 173 MONT | 05 | 1125 | 1134 | 1127 | N13 | E29 | .547 | 12164 | 7.7 | 9 | -N | | C | 1127 | 1.13 | | | | 4 |
| 177 MEUD | 05 | 1424 | 1426 | 1424 | N13 | E25 | .497 | 12164 | 7.5 | 2 | -F | | C | 1425 | .31 | .30 | | | 5 |
| 181 BOUL | 05 | 1749 | 1803 | 1756 | N08 | W65 | .217 | 12160 | 5.4 | 14 | -F | 1 | V | | | | | | 4 |
| 183 PALE | 05 | 1939 | 1948 | 1942U | N12 | E29 | .540 | 12164 | 8.0 | 9 | -F | 2 | C | | .27 | | | | F 4 |
| 186 MANI | 05 | 2329E | 2354 | 2332 | N08 | W04 | .210 | 12160 | 5.7 | 250 | -F | 2 | | 2332 | .62 | .64 | | | 3 |
| 189 MANI | 06 | 0230 | 0259 | 0236 | N17 | W68 | .941 | 12165 | 1.0 | 29 | -F | 2 | | 0236 | .52 | 1.10 | | | 6 |
| 190 MANI | 06 | 0332 | 0409 | 0339 | N12 | E17 | .391 | 12164 | 7.4 | 37 | -F | 2 | | 0339 | .83 | .90 | | | 5 |
| 191 TEHR | 06 | 0434 | 0448 | 0435 | N12 | E02 | .271 | 12160 | 6.3 | 14 | -F | 2 | C | | .28 | | | | F 6 |
| GRP47192 | 06 | 0604 | 0655 | | N12 | E10 | .317 | 12164 | 7.8 | 51 | -F | | | | 2.09 | | | | 2 2 2 6 |
| MANI | 06 | 0604 | 0651 | 0612 | N13 | E15 | .379 | 12164 | 7.4 | 47 | -F | 2 | | 0612 | 1.83 | 2.80 | | | |
| ABST | 06 | 0648 | 06590 | 0650 | N12 | E07 | .293 | 12164 | 6.8 | 110 | 1F | | P | 0650 | 2.34 | 2.40 | | | EZ |
| ABST | 06 | 0648 | 07250 | 0658 | N11 | E04 | .261 | 12164 | 6.6 | 370 | -F | | P | 0658 | .90 | .90 | | | D |
| 194 RAMY | 06 | 1221E | 12300 | 1221U | S13 | W47 | .736 | 12158 | 3.8 | 90 | -N | 2 | C | | .37 | | | | DE 5 |
| 200 HONA | 06 | 1553 | 16300 | 1556 | N13 | E12 | .349 | 12164 | 7.6 | 370 | -N | | C | 1556 | 1.83 | 1.10 | | | E 3 |
| GRP47205 | 07 | 0652 | 0735 | 0654 | N12 | E05 | .283 | 12164 | 7.7 | 13 | -N | | | | 1.82 | | | | 2 2 2 6 |
| MANI | 07 | 0658E | 07000 | 0651 | N13 | E05 | .299 | 12164 | 7.7 | 100 | -N | 1 | | 0651 | .72 | .76 | | | |
| TEHR | 07 | 0653 | 0705 | 0656 | N11 | E05 | .267 | 12164 | 7.7 | 12 | -N | 2 | V | | 1.32 | | | | F |
| 207 RAMY | 07 | 1213 | 1228 | 1214 | N10 | W26 | .489 | 12160 | 5.6 | 15 | -F | 2 | C | | .37 | | | | DE 5 |
| 210 PALE | 07 | 1920 | 1936 | 1925 | S18 | W66 | .914 | 12166 | 2.9 | 16 | -F | 2 | C | | .27 | | | | 4 |
| 214 CULG | 08 | 0412 | 05000 | 0436 | S03 | E28 | .469 | 12169 | 10.3 | 480 | 1F | | P | 0423 | 2.86 | 2.00 | | | 4 |
| 217 ARCE | 08 | 1335E | 13450 | | N06 | W45 | .719 | 12160 | 5.2 | 100 | -N | | C | 1345 | .22 | .30 | | | 6 |
| 225 ARCE | 09 | 0808E | 08250 | | N17 | W57 | .866 | 12160 | 5.1 | 170 | -N | | C | 0811 | .19 | .30 | | | 5 |
| 226 MONT | 09 | 0913 | 0916 | 0915 | N09 | W56 | .859 | 12160 | 5.0 | 3 | -N | | C | 0915 | .21 | | | | 7 |
| 227 MONT | 09 | 1049 | 1101 | 1051 | S09 | W84 | .994 | 12158 | 3.2 | 12 | -N | | C | 1051 | .21 | | | | 5 |
| 228 CULG | 10 | 0055 | 0323 | 0113 | N10 | W70 | .946 | 12160 | 4.8 | 148 | 1B | | C | 0116 | 2.68 | 4.60 | | | 4 |
| 228 CULG | 10 | 0055 | 0323 | 0128 | N10 | W70 | .946 | 12160 | 4.8 | 148 | *1B | | C | 0128 | 2.89 | 4.80 | | | 4 |
| 228 CULG | 10 | 0055 | 0323 | 0209 | N11 | W71 | .952 | 12160 | 4.7 | 148 | *1B | | C | 0209 | 2.06 | 4.10 | | | 6 |
| 229 TEHR | 10 | 0431 | 0449 | 0438 | N12 | W66 | .924 | 12160 | 5.2 | 18 | -F | 0 | V | | .99 | | | | DE R 5 |
| 231 ARCE | 10 | 0840E | 09050 | | N10 | W72 | .957 | 12160 | 5.0 | 250 | -F | | C | 0845 | .25 | | | | 8 |
| 235 BOUL | 10 | 1756 | 1800 | 1758 | N13 | W67 | .931 | 12160 | 5.7 | 4 | -F | 3 | V | | | | | | 6 |
| 236 BOUL | 10 | 1809 | 1830 | 1817 | N08 | W90 | 1.000 | 12160 | 4.0 | 21 | -B | 3 | V | | | | | | 6 |
| 243 TEHR | 11 | 0556E | 0610 | 0557U | S15 | E48 | .748 | 12176 | 14.8 | 140 | -N | 3 | V | | .99 | | | | F 4 |
| 245 RAMY | 11 | 1517 | 1522 | 1520 | N12 | W60 | .881 | 12164 | 7.1 | 5 | -F | 3 | C | | .19 | | | | DE 4 |

# SOLAR FLARES
## Unconfirmed
### JANUARY 1973

| OBSERV-ATORY | OBSERVED UT | | | | LOCATION | | | | | DURA-TION | IM-POR-TANCE | OBS. | | MEASUREMENTS | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | NOAA PLAGE REGION | CMP DAY | MIN. | | COND. | TYPE | TIME — UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH HB | MAX. INT. % | |
| 247 PALE | 11 | 1741E | 1751 | 1744 | N13 | W57 | .858 | 12164 | 7.5 | 100 | -N | 3 | V | | .31 | | | | 4 |
| 250 PALE | 11 | 2317 | 2321 | 2319 | N13 | W65 | .919 | 12164 | 7.1 | 4 | -N | 3 | V | | .26 | | | | F 3 |
| 251 CULG | 11 | 2337 | 0012 | 2344 | N18 | W57 | .869 | 12164 | 7.7 | 35 | 1F | | C | 2344 | 1.03 | 2.11 | | | 4 |
| 252 VORO | 12 | 0148 | 0200 | 0152 | N10 | W57 | .853 | 12164 | 7.8 | 12 | -B | | C | 0152 | .28 | .48 | | 64 | DL 5 |
| 253 VORO | 12 | 0309E | 0336 | | N08 | W69 | .939 | 12164 | 7.0 | 27D | -B | | C | 0309 | .19 | .45 | | 63 | DL 4 |
| 259 MONT | 12 | 1111 | 1141 | 1114 | S15 | E33 | .562 | 12176 | 14.9 | 30 | -N | | C | 1114 | 1.13 | | | | 6 |
| 264 HUAN | 12 | 1737 | 1749 | 1743 | S17 | E29 | .517 | 12176 | 14.9 | 12 | -F | 1 | C | 1743 | .26 | .31 | | | D 4 |
| 265 MCMA | 12 | 1737 | 1752 | 1745 | N14 | W70 | .950 | 12164 | 7.5 | 15 | -F | | C | 1745 | .31 | 1.10 | | | E 4 |
| 272 VORO | 13 | 0148 | 0204 | 0151 | N09 | W48 | .762 | 12169 | 9.5 | 16 | 1N | | C | 0151 | .93 | 2.86 | | 60 | EJL 3 |
| 274 ARCE | 13 | 0938 | 10000 | 0945 | N14 | W79 | .986 | 12164 | 7.5 | 22D | -N | | C | 0945 | .47 | | | | 5 |
| 275 LOCA | 13 | 1425E | 1515D | 1425 | N15 | W81 | .991 | 12164 | 7.5 | 50D | 1N | | V | 1425 | .85 | 5.41 | | | 5 |
| 277 VORO | 13 | 2339E | 0002 | 2339 | N11 | W88 | 1.000 | 12164 | 7.4 | 23D | -N | | C | 2339 | .37 | 2.47 | | 57 | EL 3 |
| 280 PALE | 14 | 2107 | 2146 | 2116 | N16 | E60 | .889 | 12185 | 19.4 | 39 | -F | 2 | C | | .45 | | | | F 4 |
| 281 VORO | 15 | 0150 | 0201 | 0153 | S18 | W03 | .238 | 12176 | 14.9 | 11 | -B | | C | 0153 | 1.29 | 1.31 | | 59 | EGJ 5 |
| 289 MANI | 17 | 0634 | 0705 | 0640 | S18 | W20 | .401 | 12179 | 15.6 | 31 | -F | 2 | | 0640 | .41 | .45 | | | 3 |
| 291 MANI | 18 | 0158E | 0202 | 0158 | S13 | E13 | .262 | 12192 | 19.1 | 4D | -F | 2 | | 0158 | .31 | .32 | | | 4 |
| 293 TEHR | 18 | 1031E | 1041 | 1033 | S12 | E07 | .173 | 12192 | 19.0 | 10D | -F | 3 | V | | .50 | | | | F 3 |
| 295 PALE | 18 | 1955 | 2003 | 1958 | S18 | E35 | .597 | 12188 | 21.5 | 8 | -F | 3 | C | | .28 | | | | 4 |
| 296 MANI | 19 | 0157 | 0215 | 0201 | S13 | W02 | .144 | 12192 | 18.9 | 18 | -F | 2 | | 0201 | .41 | .43 | | | 6 |
| 297 VORO | 19 | 0159 | 0207 | 0201 | S12 | W21 | .373 | 12186 | 17.5 | 8 | -N | | C | 0201 | .65 | .65 | | 58 | EJ 6 |
| 298 MANI | 19 | 0404 | 0415 | 0409 | S13 | W02 | .144 | 12192 | 19.0 | 11 | -F | 2 | | 0409 | .31 | .32 | | | 5 |
| 299 ATHN | 19 | 0945E | 0957 | 0947 | N12 | E04 | .299 | 12185 | 19.7 | 12D | -F | 4 | V | | .50 | | | | DE 4 |
| 302 BOUL | 19 | 2138 | 2153 | 2145 | S13 | W14 | .276 | 12192 | 18.9 | 15 | -F | 2 | V | 2145 | 1.20 | 1.38 | | | 3 |
| 303 MITK | 20 | 0257 | 0306 | 0258 | N10 | W07 | .285 | 12185 | 19.6 | 9 | -F | | C | 0258 | .72 | .80 | | | E 6 |
| 304 CATA | 20 | 1025E | 1030D | 1025 | N12 | W60 | .883 | 12195 | 15.9 | 5D | -N | 2 | | 1025 | .29 | .61 | | (166) | 6 |
| 307 CATA | 20 | 1200 | 1220 | 1205 | S15 | W65 | .903 | 12191 | 15.6 | 20 | -F | 2 | | 1205 | .58 | 1.34 | | (141) | 4 |
| GRP47308 | 21 | 0155 | 0210 | 0159 | N06 | E86 | .998 | 12200 | 27.5 | 15 | -F | | | | .40 | | | | 2 2 2 5 |
| PALE | 21 | 0154 | 0209 | 0159 | N06 | E86 | .998 | 12200 | 27.5 | 15 | -F | 2 | V | | .27 | | | | F |
| MANI | 21 | 0155 | 0210 | 0158 | N06 | E85 | .997 | 12200 | 27.5 | 15 | -F | 2 | | 0158 | .52 | 1.50 | | | |
| 309 MANI | 21 | 0350 | 0403 | 0356 | S17 | W77 | .971 | 12191 | 15.4 | 13 | -F | 2 | | 0356 | .52 | 1.25 | | | 4 |
| 310 MANI | 21 | 0454 | 0505 | 0457 | S17 | W78 | .975 | 12191 | 15.4 | 11 | -F | 2 | | 0457 | .31 | .76 | | | 4 |
| 312 PALE | 21 | 1801 | 1810 | 1804 | N13 | W30 | .572 | 12185 | 19.5 | 9 | -N | 2 | V | | .55 | | | | F 3 |
| 313 VORO | 22 | 0033 | 0104 | 0038 | N14 | E49 | .791 | 12197 | 25.7 | 31 | -N | | C | 0038 | .56 | .89 | | 60 | DHJ 4 |
| 313 VORO | 22 | 0054 | 0104 | 0057 | N14 | E46 | .761 | 12197 | 25.5 | 10 | -N | | C | 0057 | .56 | .85 | | 60 | EHJK 4 |
| 316 VORO | 22 | 0302 | 0321 | 0307 | N15 | E48 | .784 | 12197 | 25.7 | 19 | -N | | C | 0307 | .37 | .57 | | 58 | DHJK 5 |
| 317 ATHN | 22 | 0629E | 0638D | 0630 | N11 | W38 | .658 | 12185 | 19.4 | 9D | -F | 1 | V | | .33 | | | | F 3 |
| 325 MONT | 24 | 0825 | 0841 | 0828 | N09 | W64 | .909 | 12185 | 19.6 | 16 | -N | | C | 0828 | .21 | | | | 5 |
| 329 MITK | 25 | 0354E | 0416D | 0358 | S01 | E90 | 1.000 | 12205 | 31.9 | 22D | 1N | | C | 0358 | 1.83 | | | | G 4 |
| 336 VORO | 26 | 0154 | 0156 | 0155 | N08 | W11 | .380 | 12197 | 25.3 | 2 | -N | | C | 0155 | .46 | .48 | | 57 | DJ 5 |
| 338 MONT | 26 | 1217 | 1219 | 1218 | N10 | W12 | .336 | 12197 | 25.6 | 2 | -N | | C | 1218 | .21 | | | | 6 |
| 339 UPIC | 26 | 1223 | 1231 | | N11 | W13 | .358 | 12197 | 25.5 | 8 | -F | | | 1225 | 1.05 | | | | E 6 |

# SOLAR FLARES
## Unconfirmed
### JANUARY 1973

| OBSERV-ATORY | OBSERVED UT | | | | LOCATION | | | | | DURATION | IMPORTANCE | OBS. | | MEASUREMENTS | | | | | REMARKS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATE JAN | START | END | MAX. PHASE | APPROX. LAT. | APPROX. MER. DIST. | CENTRAL DISTANCE | MONATH PLAGE REGION | CMP DAY | MIN. | | COND. | TYPE | TIME UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hα | MAX. INT. % | | |
| 342 TEHR | 27 | 0612E | 0617 | 0613U | N12 | E70 | .950 | 12205 | 1.5 | 5D | -F | 2 | V | | .99 | | | | F | 4 |
| 343 TEHR | 27 | 0749E | 0800 | 0750 | S17 | W50 | .768 | 12193 | 23.6 | 11D | -F | 2 | V | | .66 | | | | F | 4 |
| 351 MANI | 30 | 0247E | 0335 | 0251 | N12 | E27 | .534 | 12205 | 1.1 | 18D | -F | 2 | | 0251 | .41 | .49 | | | | 6 |
| 352 ATHN | 30 | 1240E | 1246D | 1242 | N09 | W75 | .971 | 12197 | 24.9 | 6D | -F | 3 | V | | .33 | | | | DE | 5 |
| 355 PALE | 30 | 2136 | 2207 | 2138 | N04 | E41 | .671 | 12207 | 3.8 | 31 | -N | 2 | V | | .36 | | | | F | 3 |

Note:
A line of explanation has been added before each flare event having more than one maxima. The total number of stations reporting some part of the event is given. The number of stations observing at the time of the principal maximum but not reporting the event is given in the second statement. Care should be exercised in utilizing the numbers in the remarks column. The first number is the number of stations reporting the individual maximum, and not the total number of stations reporting some part of the flare event. The last number is the number of stations reporting at the time of the individual maximum and not necessarily the total number of stations observing during the flare event. GRP numbers may appear several times in order to indicate secondary maxima. An asterisk beside an importance indicates a secondary maximum. The word "GRP" has also been omitted to aid in pointing to this condition.
When it is impossible to determine the time of Maximum Phase from the individual reports the time of Area Measurements is used. This time appears in parentheses. For Flares reported by only one station the last 3 digits of the group number appear to the left of the station code.

In the importance column "--" signifies the subflare has been confirmed by the NOAA grouping program but is not included in the I.A.U. Quarterly Bulletin on Solar Activity. These subflares are also not included in the Flare Index below.

DAILY FLARE INDICES

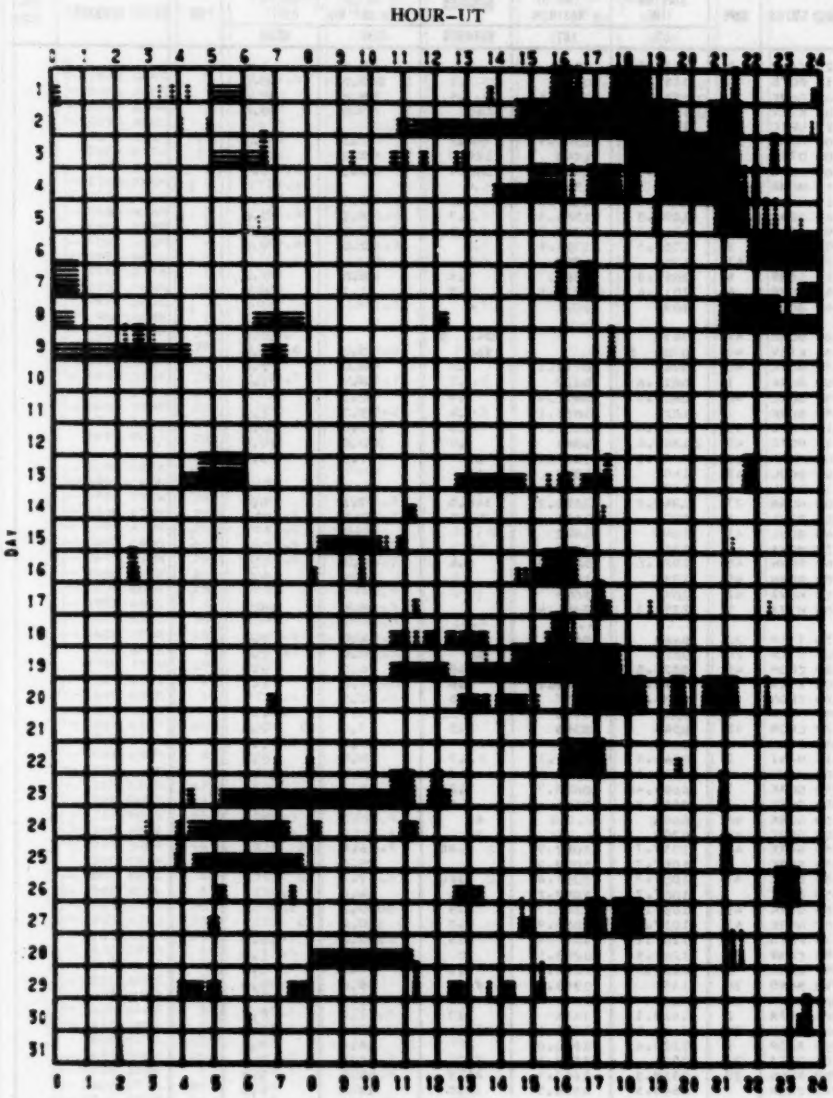
| Date | Flare Index | HR OBS | Date | Flare Index | HR OBS | Date | Flare Index | HR OBS |
|---|---|---|---|---|---|---|---|---|
| 730101 | 2.77 | 21.8 | 730111 | 19.59 | 24.0 | 730123 | 0.00 | 22.7 |
| 730102 | 3.95 | 17.8 | 730112 | 98.77 | 24.0 | 730125 | 29.28 | 23.6 |
| 730103 | 13.20 | 20.1 | 730113 | 19.51 | 22.0 | 730126 | 0.00 | 23.2 |
| 730104 | 64.80 | 18.5 | 730114 | 3.38 | 24.0 | 730127 | 0.00 | 22.2 |
| 730105 | 39.72 | 22.6 | 730116 | 0.00 | 22.5 | 730128 | 20.53 | 23.8 |
| 730106 | 233.63 | 21.0 | 730117 | 0.00 | 23.6 | 730129 | 0.00 | 23.7 |
| 730107 | 37.62 | 23.3 | 730118 | 0.00 | 23.4 | 730130 | 0.00 | 23.7 |
| 730108 | 5.88 | 22.1 | 730119 | 0.00 | 20.5 | 730131 | 0.38 | 23.8 |
| 730109 | 17.40 | 23.4 | 730120 | 10.23 | 20.2 | | | |
| 730110 | 10.89 | 24.0 | 730122 | 2.79 | 22.7 | | | |

When no Flare Index is given, it is 0 for that day.

# INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

## JANUARY 1973




Observatories included in total patrol:

| | | | | |
|---|---|---|---|---|
| Abastumani | Carnarvon | Kharkov | Meudon | Tachkent |
| Arcetri | Catania | Kiev | Mitaka | Tehran |
| Athenes | Culgoora | Kodaikanal | Monte Mario | Upice |
| Boulder | Herstmonceux | Locarno | Ondrejov | Voroshilov |
| Bucharest | Huancayo | Manila | Palehua | Wendelstein |
| Capri-S (Swedish) | Istanboul | McMath-Hulbert | Ramey | |

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

# SOLAR RADIO EMISSION
## OUTSTANDING OCCURRENCES

JANUARY 1973

| JAN. 1973 | FREQUENCY | STATION | TYPE | STARTING TIME UT | TIME OF MAXIMUM UT | DURATION MINUTES | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ PEAK | FLUX DENSITY MEAN | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1420 | CANR | 3 | 0827.5 | 0828 | 2 | 2.0 | 1.0 | | |
| | 113 | POTS | 45 | 0839.9 | 0839 | .2 | 200.0 | 40.0 | | |
| | 100 | GORK | 6 | 0839.9 | 0840.1 | .5 | 55.0 | 25.0 | | |
| | 204 | KIEV | 44 | 1100 E | | 140 | 57.0 | 10.0 | | |
| | 29 | UPIC | 45 | 1204.5 | 1206 | 3.5 | | | | |
| | 9400 | HUAN | 20 | 1301.5 | 1345.9 | 34.7 | 7.5 | 4.1 | | |
| | 2800 | OTTA | 20 | 1430 | 1440 | 100 | 1.4 | 0.7 | | |
| | 9400 | HUAN | 27 | 1445.3 | 2037.5 | 360.9 | 26.3 | 9.5 | | |
| | 18 | MCMA | 6 | 1500 | 1502 | 4 | | | 1 | |
| | 410 | SGMR | 6 | 1503.6 | 1503.6 | .2 | 18.9 | 4.0 | | |
| | 245 | SGMR | 6 | 1503.3 | 1504.5 | 1.7 | 8.1 | 3.0 | | |
| | 4995 | CANR | 3 | 1740.5 | 1742.5 | 2.5 | 9.0 | 2.0 | | |
| | 4995 | CANR | 3 | 1755.5 | 1756.5 | 2 | 12.0 | 4.0 | | |
| | 245 | BOUL | 41 | 1755 | 1757 | 3 | | | 2 | |
| | 410 | SGMR | 6 | 2018.8 | 2020.7 | 3.8 | 13.0 | 2.0 | | |
| | 245 | SGMR | 6 | 2018.6 | 2020.5 | 3.3 | 11.7 | 4.0 | | |
| | 245 | BOUL | 41 | 2019 | 2021 | 4 | | | 1 | |
| 2 | 100 | GORK | 44 | 0618 | | 342 D | | 10.0 | | |
| | 204 | KIEV | 44 | 0700 E | | 360 | 30.0 | 9.0 | | |
| | 650 | GORK | 40 | 0718 | 0718.1 | .7 | 8.0 | 1.8 | | |
| | 950 | GORK | 1 | 0811.6 | 0812 | .7 | 2.9 | 1.4 | | |
| | 650 | GORK | 40 | 0811.5 | 0811.9 | .9 | 2.5 | | | |
| | 650 | GORK | 1 | 1011 | 1011.1 | .4 | 3.7 | 1.8 | | |
| | 113 | POTS | 45 | 1313.6 | 1313.7 | .3 | 175.0 | 30.0 | | |
| | 113 | POTS | 45 | 1342.6 | 1343 | .7 | 100.0 | 10.0 | | |
| | 9400 | HUAN | 20 | 1431.3 | 1524.7 | 63 | 17.8 | 8.9 | | |
| | 245 | BOUL | 42 | 1455 | 1502 | 14 | | | 1 | |
| | 18 | BOUL | 6 | 1502 | 1505 | 13 | | | 1 | |
| | 9400 | HUAN | 27 | 1548.2 | 2128.2 | 348.3 | 17.8 | 6.2 | | |
| | 1420 | BOUL | 3 | 1604 | 1606 | 4.5 | 2.0 | 1.0 | | |
| | 245 | BOUL | 41 | 1640 | 1642 | 11 | | | 2 | |
| | 18 | MCMA | 42 | 1841 | 1848 | 10 | | | 1 | |
| | 960 | PENN | 45 | 1931.6 | 1932.8 | 3.4 | 17.3 | 1.7 | | |
| | 2700 | PENN | 45 | 1932 | 1932.4 | 1 | 5.5 | 1.4 | | |
| | 18 | MCMA | 42 | 2035 | 2038 | 10 | | | 1 | |
| | 100 | HIRA | 5 | 2354.3 | 2354.4 | 1 | 45.0 | 20.0 | | |
| 3 | 3750 | TYKW | 20 | 0440 | 0527 | 70 | 6.0 | 2.0 | | |
| | 9400 | TYKW | 20 | 0526 | 0529 | 25 | 4.0 | 2.0 | | |
| | 1420 | CRON | 45 | 0526.5 | 0527 | 1.5 | 6.0 | 2.0 | | |
| | 1000 | TYKW | 1 | 0526.5 | 0527.2 | 1.5 | 3.0 | 1.0 | | |
| | 1420 | CRON | 3 | 0536.5 | 0537 | 1.5 | 1.0 | | | |
| | 2000 | TYKW | 1 | 0545 | 0546 | 3 | 3.0 | 1.0 | | |
| | 1420 | CRON | 45 | 0545 | 0546 | 2.5 | 7.0 | 2.0 | | |
| | 1000 | TYKW | 1 | 0545 | 0546 | 3 | 3.0 | 1.0 | | |
| | 1415 | MANI | 2 | 0546.5 | 0547.1 | 2.7 | 5.5 | 2.2 | | |
| | 606 | MANI | 4 | 0546.5 | 0547.2 | 2.3 | 40.0 | 10.4 | | |
| | 950 | GORK | 1 | 0605.4E | 0605.7 | 1.2E | 5.1 | | | |
| | 650 | GORK | 1 | 0605.3 | 0606 | 1.5 | 4.3 | 2.1 | | |
| | 100 | GORK | 44 | 0606 | | 40 | | 5.0 | | |
| | 200 | GORK | 44 | 0700 | | 90 | | 5.0 | | |
| | 950 | GORK | 41 | 1057.7 | 1057.9 | 2.3U | 16.0 | | | |
| | 950 | GORK | | 1057.7 | 1059.2 | | 25.0 | | | |
| | 650 | GORK | 41 | 1057.7 | 1057.8 | 2.4U | 2.1 | | | |
| | 650 | GORK | | 1057.7 | 1059.2 | | 44.0 | | | |
| | 200 | GORK | 48 | 1057.7 | 1100.7U | 3.3 | 9000.0 | | | |
| | 100 | GORK | 41 | 1057.6 | 1059.9 | 4.7 | 120.0 | | | |
| | 113 | POTS | 45 | 1157.1 | 1157.4 | .5 | 150.0 | 10.0 | | |
| | 2695 | CANR | 3 | 1242.5 | 1243.5 | 3 | 3.0 | 1.0 | | |
| | 4995 | CANR | 3 | 1243.5 | 1244.5 | 3.5 | 7.0 | 2.0 | | |
| | 930 | BORD | 20 | 1352 | 1353.7 | 70 | 18.0 | 5.0 | | |
| | 2800 | OTTA | 25 | 1420 | | 7 | 2.0 | | | |
| | 2800 | OTTA | 2 | 1423.5 | 1424 | .7 | 1.4 | 0.7 | | |
| | 9400 | HUAN | 25 | 1430.5 | 1838.1 | 334.1 | 21.1 | 11.0 | | |
| | 7000 | SAOP | 1 | 1520.4 | 1520.8 | 2 | 14.6 | 7.2 | | |
| | 2800 | OTTA | 21 | 1535 | 1547.5 | 90 | 4.8 | 2.4 | | |
| | 2700 | PENN | 20 | 1539.3 | 1547.5 | 45.9 | 14.0 | 3.9 | | |
| | 4995 | CANR | 3 | 1543.5 | 1546.5 | 12.5 | 18.0 | 6.0 | | |
| | 2695 | SGMR | 1 | 1544.2 | 1547.2 | 7.6 | 5.8 | .8 | | |
| | 10700 | PENN | 1 | 1546.2 | 1547.4 | 5.4 | 6.7 | 1.8 | | |
| | 8800 | SGMR | 3 | 1546.8 | 1547.5 | 1.5 | 11.0 | 3.9 | | |
| | 4995 | BOUL | 8 | 1546.5 | 1547 | 2 | 17.0 | 6.0 | | |
| | 4995 | SGMR | 3 | 1546.8 | 1547.3 | 3.6 | 11.8 | 4.0 | | |
| | 1420 | BOUL | 8 | 1546.5 | 1547 | 1 | 5.0 | 2.0 | | |
| | 1420 | CANR | 8 | 1546 | 1547.5 | 2 | 5.0 | 2.0 | | |
| | 1415 | SGMR | 1 | 1546.5 | 1547.1 | 2 | 6.2 | 2.0 | | |
| | 960 | PENN | | 1546.6 | 1547.4 | 1.3 | 5.0 | 1.1 | | |
| | 606 | SGMR | 1 | 1546.8 | 1547.1 | 1 | 4.4 | 1.6 | | |
| | 245 | SGMR | 6 | 1546.6 | 1547.1 | 1.5 | 13.1 | 2.5 | | |
| | 9400 | HUAN | 1 | 1547 | 1547.3 | .8 | 13.4 | 6.5 | | |
| | 2800 | OTTA | 1 | 1547 | 1547.5 | 1.5 | 3.8 | 1.9 | | |
| | 2695 | BOUL | 3 | 1547.5 | 1548 | 1 | 3.0 | 1.0 | | |
| | 930 | BORD | 45 | 1547 | 1547.3 | 1 | 11.0 | 2.0 | | |
| | 410 | SGMR | 6 | 1547 | 1547.1 | 1.2 | 8.6 | 1.5 | | |
| | 4995 | CANR | 3 | 1628.5 | 1632 | 6.5 | 12.0 | 4.0 | | |
| | 7000 | SAOP | 20 | 1629 | | 6.3 | 10.3 | | | |
| | 4995 | BOUL | 3 | 1629.5 | 1631.5 | 5 | 14.0 | 4.0 | | |
| | 2800 | OTTA | 1 | 1629.5 | 1632 | 6 | 9.0 | 3.2 | | |
| | 2695 | CANR | 3 | 1629 | 1631 | 5 | 10.0 | 3.0 | | |

# SOLAR RADIO EMISSION
# OUTSTANDING OCCURRENCES

## JANUARY 1973

| JAN. 1973 | FREQUENCY STATION | TYPE | STARTING TIME UT | TIME OF MAXIMUM UT | DURATION MINUTES | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ PEAK | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ MEAN | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | 2695 SGMR | 3 | 1629.4 | 1632 U | 4.6U | 11.3U | U | | |
| | 8800 SGMR | 1 | 1630 U | 1632. U | 3.4U | 5.8U | U | | |
| | 4995 SGMR | 3 | 1630 U | 1632 U | 4 U | 12.1U | U | | |
| | 2695 BOUL | 3 | 1630 | 1632.5 | 7 | 12.0 | 4.0 | | |
| | 2695 CANR | 21 | 1643 | 1647 | 20.5 | 8.0 | 2.0 | | |
| | 2800 OTTA | 21 | 1742 | 1805 | 130 | 7.0 | 3.5 | | |
| | 4995 SGMR | 3 | 1758.8 | 1801 | 8.2 | 34.2 | 11.4 | | |
| | 2700 PENN | 3 | 1758.4 | | 6.2 | 50.0D | | | |
| | 2695 SGMR | 3 | 1758.2 | 1801.3 | 10.5 | 26.1 | 8.7 | | |
| | 9400 HUAN | 2 | 1759.9 | 1800.8 | 3.9 | 17.2 | 7.8 | | |
| | 8800 SGMR | 3 | 1759.5 | 1800.5 | 11.1 | 31.0 | 10.3 | | |
| | 7000 SAOP | 4 | 1759.8 | 1801.3 | 4.9 | 33.7 | 18.8 | | |
| | 4995 BOUL | 3 | 1759.5 | 1801 | 4.5 | 26.0 | 9.0 | | |
| | 2800 OTTA | 3 | 1759 | 1801 | 5 | 24.0 | 9.0 | | |
| | 10700 PENN | 20 | 1800 | | 52 | 13.0D | | | |
| | 2695 BOUL | 3 | 1800 | 1801.5 | 5.5 | 24.0 | 11.0 | | |
| | 960 PENN | 1 | 1800.4 | | | 1.9 | | | |
| | 7000 SAOP | 29 | 1803.7 | | 7 E | | | | |
| | 2700 PENN | 29 | 1804.6 | 1804.6 | 71.5 | 10.4 | 7.3 | | |
| | 4995 SGMR | 29 | 1807 | 1807 | 15 | 7.2 | 3.6 | | |
| | 2695 SGMR | 29 | 1808.7 | 1808.7 | 15.9 | 2.6 | 1.3 | | |
| | 2800 OTTA | 20 | 1833 | 1839 | 40 | 4.6 | 2.3 | | |
| | 2695 SGMR | 22 | 1833.7 | 1840.2 | 25.3 | 4.5 | 2.3 | | |
| | 2700 PENN | 20 | 1834.8 | 1847 | 18.6 | 4.7 | 2.4 | | |
| | 2695 PENT | 20 | 2100 | 2113 | 40 | 2.2 | 1.1U | | |
| 4 | 3100 CRIM | 24 | | 0645 | | 12.0 | | | |
| | 4995 CRON | 45 | 0639 | 0644 | 13 | 18.0 | 6.0 | | |
| | 3750 TYKW | 20 | 0640 | 0644.3 | 12 | 14.0 | 5.0 | | |
| | 8800 ATHN | 20 | 0641.2 | 0644.1 | 36.8 | 14.2 | 6.3 | | |
| | 4995 ATHN | 20 | 0641.6 | 0646 U | 13 U | 13.1 | 5.5 | | |
| | 2695 CRON | 45 | 0641.5 | 0643.5 | 15.5 | 8.0 | 2.0 | | |
| | 2695 ATHN | 20 | 0641.5 | 0644.2 | 13 | 8.5 | 2.8 | | |
| | 9400 TYKW | 20 | 0642 | 0645 | 20 | 8.0 | 4.0 | | |
| | 2950 GORK | 20 | 0642 | 0644.5 | 60 | 23.0 | 6.5 | | |
| | 4995 MANI | 3 | 0643 | 0644.5 | 7 | 15.4 | 7.0 | | |
| | 2695 MANI | 20 | 0643 | 0644.5 | 10.5 | 9.2 | 2.6 | | |
| | 1420 CRON | 45 | 0643.5 | 0647.5 | 10.5 | 2.0 | 1.0 | | |
| | 950 GORK | 1 | 0643.9 | 0646.5 | 4.8 | 4.6 | 1.5 | | |
| | 3750 TYKW | 29 | 0652 | | 15 D | 3.0 | 2.0 | | |
| | 210 IZMI | 41 | 0728 | 0747.4 | 25 | 120.0 | | | |
| | 650 GORK | 1 | 0732.4 | 0732.8 | .7 | 5.7 | 2.8 | | |
| | 100 GORK | 44 | 0734.8 | | 202 | | 10.0 | | |
| | 204 KIEV | 44 | 0800 E | | 60 | 25.0 | 7.0 | | |
| | 4995 CANR | 8 | 0823.5 | 0824.5 | 1.5 | 20.0 | 8.0 | | |
| | 2695 CANR | 8 | 0823 | 0824 | 1.5 | 12.0 | 4.0 | | |
| | 1420 CANR | 8 | 0824 | 0825 | 2 | 6.0 | 2.0 | | |
| | 204 KIEV | 42 | 1040 | | 140 | 87.0 | 8.0 | | |
| | 930 BORD | 3 | 1136 | 1136.6 | 1 | 35.0 | 1.0 | | |
| | 113 POTS | 45 | 1200.3 | 1200.4 | .1 | 800.0U | 100.0U | | |
| | 100 GORK | 6 | 1200.4 | 1200.6 | .4 | 150.0 | 70.0 | | |
| | 245 SGMR | 44 | 1218 E | 1316.8 | 541 D | 43.4 | | | |
| | 3100 CRIM | 1 | 1223 | 1224 | 2 | 2.0 | 1.0 | | |
| | 3000 BERL | 4 | 1252 U | 1257.5 | 26 U | 6.7 | 2.3 | | |
| | 1500 BERL | 4 | 1252.5 | 1257 | 26 | 8.5 | 2.3 | | |
| | 1415 ATHN | 20 | 1252.2 | 1257.6 | 40.1 | 6.1 | 1.4 | | |
| | 4995 ATHN | 20 | 1253 U | 1257 U | 56 U | 3.3 | 1.1 | | |
| | 2695 ATHN | 20 | 1253.6 | 1257.2 | 58.9 | 9.9 | 2.8 | | |
| | 1420 CANR | 3 | 1253.5 | 1258.5 | 9 | 7.0 | 3.0 | | |
| | 2695 CANR | 3 | 1254 | 1257 | 7 | 10.0 | 3.0 | | |
| | 2830 ARCE | 3 | 1255 | 1257 | 4.6 | | | | |
| | 2695 SGMR | 1 | 1255.3 | 1257.4 | 4.6 | 7.5 | 3.0 | | |
| | 1420 ARCE | 3 | 1255.1 | 1257.5 | 6 | | | | |
| | 1415 SGMR | 1 | 1255.4 | 1257.5 | 4.6 | 6.1 | 2.0 | | |
| | 2800 OTTA | 22 | 1610 | 1640 | 70 | 2.0 | 1.2 | | |
| | 2695 SGMR | 20 | 2027.8 | 2030.2 | 13.1 | 8.0 | 4.0 | | |
| | 4995 SGMR | 1 | 2028.5 | 2030.4 | 7.6 | 3.8 | 1.9 | | |
| | 2800 OTTA | 20 | 2028 | 2030 | 55 | 7.4 | 3.5 | | |
| | 2700 PENN | 20 | 2028.4 | 2030.3 | 30 D | 13.0 | | | |
| | 8800 SGMR | 1 | 2029.5 | 2030.3 | 5.5 | 3.8 | 1.9 | | |
| | 2695 BOUL | 21 | 2029 | 2030.5 | 11.5 | 7.0 | 2.0 | | |
| 5 | 3750 TYKW | 20 | 0030 | 0034 | 15 | 6.0 | 2.0 | | |
| | 3750 TYKW | 45 | 0305 | 0314 | 60 | 2.0 | 1.0 | | |
| | 204 KIEV | 44 | 0700 E | | 380 D | 35.0 | 9.0 | | |
| | 200 GORK | 44 | 0937 | | 143 D | | 10.0 | | |
| | 221 ABST | 41 | 1002 | 1009.5 | 55.2 | 12.0 | | | |
| | 100 GORK | 44 | 1012.6 | | 107 D | | 5.0 | | |
| | 245 SGMR | 44 | 1220 E | 1235.2 | 539 D | 30.4 | | | |
| | 3100 CRIM | 1 | 0827 | 0828 | 3 | 5.0 | 2.0 | | |
| | 4995 CANR | 8 | 0846.5 | 0847.5 | 1.5 | 12.0 | 5.0 | | |
| | 2695 CANR | 8 | 0846.5 | 0847 | 1.5 | 6.0 | 2.0 | | |
| | 9285 ARCE | 2 | 0847.2 | 0848 | 1.4 | | | | |
| | 2830 ARCE | 1 | 0847.4 | 0847.7 | 1.8 | | | | |
| | 100 GORK | 41 | 1024.3 | 1031.9 | 32.7 | 70.0 | | | |
| | 100 GORK | | 1024.3 | 1041.3 | | 70.0 | | | |
| | 210 IZMI | 41 | 1115.8 | 1115.9 | .9 | 190.0 | | | |
| | 4995 CANR | 3 | 1125 | 1126.5 | 5 | 11.0 | 2.0 | | |
| | 4995 CANR | 21 | 1239 | 1240.5 | 21.5 | 8.0 | 3.0 | | |
| | 237 TRST | 41 | 1315.5 | 1315.8 | .4 | 140.0U | | | |

# SOLAR RADIO EMISSION
# OUTSTANDING OCCURRENCES

## JANUARY 1973

| JAN. 1973 | FREQUENCY | STATION | TYPE | STARTING TIME UT | TIME OF MAXIMUM UT | DURATION MINUTES | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ PEAK | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ MEAN | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | 237 | TRST | 45 | 1352.7 | 1353 | .7 | 910.0 | 140.0 | | |
| | 113 | POTS | 40 | 1352.1 | 1352.2 | 1.4 | 150.0 | 6.0 | | |
| | 2800 | OTTA | 1 | 1353 | 1353.2 | .5 | 2.0 | 1.0 | | |
| | 234 | POTS | 8 | 1353 | 1353 | .1 | 250.0 | 80.0 | | |
| | 2800 | OTTA | 21 | 1455 | 1605 | 110 | 3.2 | 2.0 | | |
| | 8800 | SGMR | 46 | 1512.8 | 1515.2 | 10.6 | 13.9 | 8.4 | | |
| | 8800 | SGMR | 46 | | 1520.2 | | 33.6 | | | |
| | 4995 | SGMR | 46 | 1512.1 | 1514.9 | 17.6 | 13.3 | 4.2 | | |
| | 4995 | SGMR | 46 | | 1520 | | 16.7 | | | |
| | 2695 | CANR | 8 | 1512.5 | 1514 | 2 | 13.0 | 6.0 | | |
| | 10700 | PENN | 20 | 1513.8 | 1520.3 | 22.2 | 10.5 | 5.2 | | |
| | 4995 | CANR | 8 | 1513.5 | 1514.5 | 2.5 | 11.0 | 3.0 | | |
| | 2800 | OTTA | 3 | 1513.5 | 1515 | 3 | 12.4 | 3.1 | | |
| | 2695 | SGMR | 46 | 1513.6 | 1514.9 | 15.5 | 10.4 | 3.0 | | |
| | 2695 | SGMR | 46 | | 1520.1 | | 12.0 | | | |
| | 1420 | BOUL | 8 | 1513.5 | 1515 | 2.5 | 7.0 | 3.0 | | |
| | 1420 | CANR | 3 | 1513.5 | 1515 | 3 | 5.0 | 2.0 | | |
| | 4995 | BOUL | 8 | 1514 | 1514.5 | 1 | 14.0 | 4.0 | | |
| | 2700 | PENN | 3 | 1514.1 | 1514.8 | 1.5 | 21.4 | 5.6 | | |
| | 2695 | BOUL | 8 | 1514 | 1514.5 | 2 | 9.0 | 4.0 | | |
| | 1415 | SGMR | 46 | 1514.3 | 1515.2 | 21.1 | 7.5 | 6.9 | | |
| | 1415 | SGMR | 46 | | 1520.4 | | 27.7 | | | |
| | 930 | BORD | 20 | 1514 | 1520.5 | 11 | 18.0 | 3.0 | | |
| | 606 | SGMR | 46 | 1514.5 | 1515.3 | 16.5 | 3.7 | 3.3 | | |
| | 410 | SGMR | 6 | 1514.7 | 1520.5 | 10.7 | 6.8 | 1.7 | | |
| | 606 | SGMR | 46 | | 1520.4 | | 13.0 | | | |
| | 4995 | CANR | 3 | 1518.5 | 1520 | 6 | 17.0 | 5.0 | | |
| | 2695 | CANR | 3 | 1518.5 | 1519.5 | 6.5 | 16.0 | 5.0 | | |
| | 15400 | SGMR | 2 | 1519.8 | 1520.3 | 2.7 | 9.3 | 2.3 | | |
| | 4995 | BOUL | 3 | 1519.5 | 1520 | 2.5 | 18.0 | 6.0 | | |
| | 2800 | OTTA | 3 | 1519 | 1520 | 3 | 13.4 | 9.0 | | |
| | 2700 | PENN | 45 | 1519.2 | 1520.7 | 2.9 | 23.6 | 15.1 | | |
| | 1420 | BOUL | 8 | 1519 | 1520 | 4 | 18.0 | 6.0 | | |
| | 1420 | CANR | 3 | 1519.5 | 1521 | 9.5 | 20.0 | 8.0 | | |
| | 245 | SGMR | 6 | 1519.7 | 1520 | 2.5 | 191.0 | 47.8 | | |
| | 2695 | BOUL | 3 | 1520 | 1520.5 | 2 | 11.0 | 4.0 | | |
| | 2800 | OTTA | 29 | 1522 | | 9 | 4.2 | 2.0 | | |
| | 2700 | PENN | 29 | 1522.1 | 1522.1 | 10 | 6.4 | 3.2 | | |
| | 2800 | OTTA | 1 | 1540.6 | 1541.2 | 3 | 5.2 | 1.8 | | |
| | 2700 | PENN | 1 | 1540.8 | 1541.4 | 1.7 | 6.4 | 1.8 | | |
| | 2695 | CANR | 8 | 1540 | 1540.5 | 4 | 8.0 | 3.0 | | |
| | 2695 | BOUL | 3 | 1540.5 | 1541 | 1.5 | 7.0 | 2.0 | | |
| | 2695 | SGMR | 1 | 1540.2 | 1541.1 | 3.7 | 5.7 | 2.0 | | |
| | 1420 | BOUL | 3 | 1540 | 1540.5 | 1.5 | 3.0 | 1.0 | | |
| | 1420 | CANR | 3 | 1540.5 | 1541.5 | 4.5 | 4.0 | 1.0 | | |
| | 1415 | SGMR | 1 | 1540.9 | 1541 | 6.5 | 1.3 | .6 | | |
| | 2700 | PENN | 1 | 1813.1 | 1816 | 7.1 | 2.2 | 1.1 | | |
| | 245 | BOUL | 43 | 1918 | | 247 D | | | 1 | |
| | 410 | SGMR | 6 | 2008.2 | 2008.7 | 1.5 | 51.0 | 12.0 | | |
| | 245 | SGMR | 6 | 2008.4 | 2008.9 | .8 | 220.0 | 35.0 | | |
| | 2695 | PENT | 20 | 2145 | 2149 | 25 | 3.8 | 1.9U | | |
| | 4995 | CRON | 3 | 2310.5 | 2302.5 | 7 | 11.0 | 4.0 | | |
| 6 | 1420 | CRON | 3 | 0027 | 0027.5 | 1 | 3.0 | 1.0 | | |
| | 200 | GORK | 44 | 0612 E | | 336 D | | 10.0 | | |
| | 100 | GORK | 44 | 0613 E | | 335 | | 5.0 | | |
| | 221 | ABST | 41 | 0700 | 1016.8 | 189.5 | 17.0 | | | |
| | 210 | IZMI | 44 | 0700 | 1200 | 300 | 60.0 | | | |
| | 204 | KIEV | 44 | 0700 E | 1300 | 400 D | 110.0 | 18.0 | | |
| | 245 | SGMR | 44 | 1219 E | 1717.5 | 541 D | 204.0 | | | |
| | 410 | SGMR | 43 | 1400 U | 1919.8 | 440 D | 38.3 | | | |
| | 245 | BOUL | 44 | 1435 E | | 530 D | | | 3 | |
| | 113 | POTS | 8 | 0753.9 | 0754 | .1 | 200.0 | 70.0 | | |
| | 210 | IZMI | 41 | 1133.3 | 1133.5 | .7 | 180.0 | | | |
| | 113 | POTS | 40 | 1141 | 1141.1 | .7 | 350.0 | 25.0 | | |
| | 408 | TRST | 41 | 1220.4 | 1220.5 | .3 | 57.0 | | | |
| | 4995 | CANR | 21 | 1248.5 | 1250 | 12.5 | 8.0 | 2.0 | | |
| | 237 | TRST | 41 | 1312.9 | 1313.1 | .3 | 510.0 | | | |
| | 9400 | HUAN | 20 | 1338.7 | 1411.1 | 96.7 | 20.7 | 9.8 | | |
| | 2830 | ARCE | 22 | 1340.6 | 1355.5 | 38.5 | | | | |
| | 2800 | OTTA | 23 | 1340 E | 1355 | 190 D | 22.0 | | | |
| | 9285 | ARCE | 22 | 1343 | 1404.3 | 56.7 | | | | |
| | 2700 | PENN | 20 | 1348.9 | 1355.5 | 36.5 | 21.8 | 7.2 | | |
| | 2695 | CANR | 21 | 1349 | 1355 | 34 | 11.0 | 3.0 | | |
| | 4995 | CANR | 21 | 1350 | 1356 | 40.5 | 17.0 | 5.0 | | |
| | 10700 | PENN | 20 | 1353 | 1410.8 | 66.3 | 15.7 | 7.8 | | |
| | 29 | UPIC | 45 | 1406 | 1408.5 | 6 | | | | |
| | 2700 | PENN | | 1500 E | 1504 | | 17.4 | | | |
| | 2695 | CANR | 3 | 1501.5 | 1503 | 4 | 5.0 | 2.0 | | |
| | 4995 | CANR | 3 | 1502.5 | 1504.5 | 4 | 5.0 | 2.0 | | |
| | 2800 | OTTA | 1 | 1503 | 1504 | 4 | 3.2 | 1.6 | | |
| | 2695 | SGMR | 1 | 1503.1 | 1503.8 | 4.8 | 3.2 | 1.0 | | |
| | 7000 | SAOP | 22 | 1542.6 | | 11.1 | 12.4 | | | |
| | 7000 | SAOP | 22 | 1626.2 | | 14.4 | 10.3 | | | |
| | 2800 | OTTA | 20 | 1705 | 1840 | 240 | 7.6 | 3.8 | | |
| | 2700 | PENN | 20 | 1728.6 | 1837.9 | 222 | 9.8 | 4.9 | | |
| | 7000 | SAOP | 22 | 1756.6 | | 19 E | 11.9 | | | |
| 7 | 208 | VORO | 42 | 0029 | 0029.5 | 2 | 46.0 | 10.0 | | |
| | 4995 | CRON | 3 | 0117.5 | 0118.5 | 2 | 6.0 | 3.0 | | |

# SOLAR RADIO EMISSION
# OUTSTANDING OCCURRENCES

JANUARY 1973

| JAN. 1973 | FREQUENCY | STATION | TYPE | STARTING TIME UT | TIME OF MAXIMUM UT | DURATION MINUTES | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ PEAK | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ MEAN | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 100 | HIRA | 43 | 0311 | 0617 | 250 D | 45.0 | 10.0 | | |
| | 200 | GORK | 44 | 0618 | | 342 D | | 10.0 | | |
| | 100 | GORK | 44 | 0621 E | | 339 D | | 7.0 | | |
| | 204 | KIEV | 44 | 0700 E | | 380 D | 170.0 | 18.0 | | |
| | 410 | SGMR | 44 | 1219 E | 1946.8 | 542 D | 38.9 | | | |
| | 245 | SGMR | 44 | 1219 E | 1558 | 542 D | 84.5 | | | |
| | 245 | BOUL | 44 | 1443 E | | 520 D | | | 2 | |
| | 100 | HIRA | 44 | 2150 | 2159 | 100 D | 45.0 | 7.0 | | |
| | 4995 | CRON | 3 | 0646.5 | 0647.5 | 3.5 | 8.0 | 3.0 | | |
| | 4995 | ATHN | 1 | 0646 U | 0648 U | 6 U | 6.6 | 2.2 | | |
| | 2695 | CRON | 8 | 0646 | 0647 | 1.5 | 9.0 | 3.0 | | |
| | 9750 | IRKU | 1 | 0647.5 | 0648.4 | 6.5 | 14.0 | 6.0 | | |
| | 9100 | GORK | 3 | 0647.2 | 0648.9 | 5.7 | 16.4 | 8.2 | | |
| | 8800 | MANI | 3 | 0647.7 | 0648.2 | 6.2 | 13.8 | 5.9 | | |
| | 8800 | ATHN | 1 | 0647.7 | 0648.5 | 1.7 | 4.7 | 1.6 | | |
| | 4995 | MANI | 1 | 0647.5 | 0648 | 6.4 | 9.8 | 4.2 | | |
| | 3750 | TYKW | 3 | 0647.3 | 0648 | 3.5 | 11.0 | 3.0 | | |
| | 2950 | GORK | 4 | 0647.5 | 0648.2 | 2.7 | 21.0 | 6.0 | | |
| | 2695 | MANI | 1 | 0647.3 | 0648 | 6.6 | 6.0 | 2.4 | | |
| | 2695 | ATHN | 1 | 0647.3 | 0647.9 | 2 | 4.3 | 1.4 | | |
| | 2000 | TYKW | 45 | 0647.3 | 0647.6 | 1 | 12.0 | 4.0 | | |
| | 29 | UPIC | 45 | 0822 | 0824 | 4.5 | | | | |
| | 113 | POTS | 45 | 0853.5 | 0853.6 | .3 | 150.0 | 30.0 | | |
| | 2695 | CANR | 3 | 0901 | 0902 | 1.5 | 5.0 | 2.0 | | |
| | 113 | POTS | 41 | 0932.7 | 0934.4 | 1.8 | 700.0 | 25.0 | | |
| | 210 | IZMI | 41 | 0947.5 | 0947.6 | .5 | 190.0 | | | |
| | 113 | POTS | 45 | 1024.6 | 1024.8 | .4 | 400.0 | 80.0 | | |
| | 9285 | ARCE | 22 | 1058.8 | 1101.5 | 41 | | | | |
| | 8800 | ATHN | 1 | 1100.7 | 1101 | 2.8 | 8.1 | 5.7 | | |
| | 2830 | ARCE | 20 | 1100.1 | 1101.8 | 34 | | | | |
| | 2695 | ATHN | 1 | 1100.9 | 1101.7 | 2.4 | 5.7 | 2.8 | | |
| | 930 | BORD | 1 | 1101 | 1101.1 | 1 | 9.0 | 1.0 | | |
| | 4995 | CANR | 3 | 1200 | 1201.5 | 2.5 | 9.0 | 3.0 | | |
| | 29 | UPIC | 45 | 1246 | 1247.5 | 2 | | | | |
| | 4995 | CANR | 45 | 1507.5 | 1509 | 8.5 | 26.0 | 8.0 | | |
| | 15400 | SGMR | 1 | 1508.1 | 1509.3 | 4.7 | 8.1 | 4.0 | | |
| | 10700 | PENN | 3 | 1508.9 | 1509.3 | 5.1 | 11.6 | 2.8 | | |
| | 9285 | ARCE | 1 | 1508.7 | 1509 | 1 | | | | |
| | 8800 | SGMR | 3 | 1508.3 | 1509.1 | 3.2 | 20.5 | 9.2 | | |
| | 4995 | BOUL | 8 | 1508.5 | 1509 | 1 | 27.0 | 8.0 | | |
| | 4995 | SGMR | 3 | 1508.6 | 1509 | 6.5 | 28.5 | 10.4 | | |
| | 2830 | ARCE | 1 | 1508.7 | 1509.1 | 1.2 | | | | |
| | 2800 | OTTA | 3 | 1508.5 | 1508.9 | 3 | 14.4 | 3.8 | | |
| | 2700 | PENN | 3 | 1508.5 | 1509 | 9.5 | 24.4 | 3.0 | | |
| | 2695 | CANR | 8 | 1508 | 1508.5 | 3.5 | 14.0 | 6.0 | | |
| | 2695 | SGMR | 3 | 1508.4 | 1508.9 | 3.9 | 12.1 | 4.6 | | |
| | 2695 | BOUL | 8 | 1509.5 | 1510 | 1 | 13.0 | 4.0 | | |
| | 2800 | OTTA | 24 | 1552 | | 13 | 2.4 | | | |
| | 18 | BOUL | 6 | 1707 | 1711 | 5 | | | 2 | |
| | 2800 | OTTA | 26 | 2000 | | 35 | 2.4 | | | |
| | 18 | BOUL | 6 | 2058 | 2101 | 5 | | | 1 | |
| | 18 | BOUL | 6 | 2206 | 2209 | 4 | | | 1 | |
| | 4995 | BOUL | 8 | 2231.5 | 2232 | 2 | 15.0 | 5.0 | | |
| | 4995 | CRON | 3 | 2232.5 | 2233.5 | 2.5 | 11.0 | 4.0 | | |
| | 2800 | OTTA | 1 | 2232.2 | 2232.5 | 2.5 | 6.0 | 3.0 | | |
| | 2695 | CRON | 3 | 2232.5 | 2233.5 | 2.5 | 10.0 | 4.0 | | |
| | 2695 | BOUL | 45 | 2232.5 | 2233 | 9 | 9.0 | 2.0 | | |
| | 1420 | CRON | 3 | 2232.5 | 2234 | 6 | 5.0 | 2.0 | | |
| | 18 | BOUL | 6 | 2302 | 2303 | 2 | | | 1 | |
| 8 | 4995 | MANI | 1 | 0109 | 0109.4 | 1.2 | 3.0 | 1.5 | | |
| | 2695 | MANI | 1 | 0109 | 0109.2 | 1.2 | 2.6 | 1.3 | | |
| | 1415 | MANI | 1 | 0109 | 0109.7 | 1.6 | 2.5 | 1.3 | | |
| | 606 | MANI | 1 | 0109 | 0109.5 | 1.6 | 7.2 | 2.0 | | |
| | 208 | VORO | 3 | 0135 | 0230 | 85 | 20.8 | 15.0 | | |
| | 200 | GORK | 6 | 0637.6 | 0637.9 | .7 | 200.0 | 80.0 | | |
| | 100 | GORK | 6 | 0637.7 | 0637.9U | .4 | 50.0 | | | |
| | 204 | KIEV | 42 | 0740 | | 320 D | 16.0 | 6.0 | | |
| | 410 | SGMR | 44 | 1218 E | 1946.7 | 544 D | 40.6 | | | |
| | 245 | SGMR | 44 | 1218 E | 1958.1 | 544 D | 93.5 | | | |
| | 245 | BOUL | 44 | 1452 E | | 443 | | | 2 | |
| | 29 | UPIC | 45 | 1020 | 1020.5 | 1 | | | | |
| | 408 | TRST | 41 | 1029 | 1029.4 | 1 | 39.0 | | | |
| | 113 | POTS | 45 | 1040 | 1041.1 | 1.3 | 200.0 | 8.0 | | |
| | 930 | BORD | 3 | 1110 | 1110.8 | 1 | 66.0 | 2.0 | | |
| | 2800 | OTTA | 20 | 1445 | 1518 | 120 | 2.6 | 1.8 | | |
| | 930 | BORD | 3 | 1447 | 1447.4 | 1 | 21.0 | 2.0 | | |
| | 2800 | OTTA | 20 | 1920 | 1955 | 110 | 1.6 | 0.8 | | |
| | 100 | HIRA | 45 | 2214.3 | 2214.8 | 1 | 60.0 | 25.0 | | |
| | 100 | HIRA | 45 | 2247.3 | 2247.8 | 1.5 | 45.0 | 15.0 | | |
| | 245 | BOUL | 41 | 2306 | 2312 | 19 | | | 2 | |
| | 208 | VORO | 24 | 2315 | 0004 | 59 | 12.8 | 9.4 | | |
| | 100 | HIRA | 45 | 2341.5 | 2342.2 | 2 | 80.0 | 30.0 | | |
| 9 | 100 | HIRA | 45 | 0301.9 | 0302.2 | 1 | 65.0 | 20.0 | | |
| | 100 | HIRA | 45 | 0340.5 | 0341.5 | 1.5 | 60.0 | 25.0 | | |
| | 3750 | TYKW | 45 | 0447 | 0450.7 | 11 | 12.0 | 3.0 | | |
| | 100 | HIRA | 45 | 0447 | 0448 | 9 | 1000.0 | 80.0 | | |
| | 9750 | IRKU | 1 | 0449 | 0450.7 | 8 | 19.0 | 4.0 | | |
| | 8800 | MANI | 4 | 0449.8 | 0450.7 | 9.6 | 34.2 | 10.7 | | |

# SOLAR RADIO EMISSION
## OUTSTANDING OCCURRENCES

### JANUARY 1973

| JAN. 1973 | FREQUENCY STATION | TYPE | STARTING TIME UT | TIME OF MAXIMUM UT | DURATION MINUTES | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ PEAK | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ MEAN | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 9 | 4995 CRON | 3 | 0449.5 | 0450.5 | 7.5 | 22.0 | 8.0 | | |
| | 4995 MANI | 4 | 0449.8 | 0450.7 | 9.6 | 24.5 | 5.8 | | |
| | 2695 CRON | 45 | 0449 | 0450 | 6 | 11.0 | 3.0 | | |
| | 2695 MANI | 4 | 0449.8 | 0450.7 | 9.9 | 13.2 | 3.6 | | |
| | 1420 CRON | 45 | 0449.5 | 0454 | 6.5 | 269.0 | 80.0 | | |
| | 1415 MANI | 4 | 0449.8 | 0453.3 | 5.6 | 315.0 | 42.8 | | |
| | 606 MANI | 4 | 0449 | 0454.2 | 7.9 | 27.1 | 8.3 | | |
| | 9400 TYKW | 45 | 0450 | 0450.8 | 5 | 17.0 | 5.0 | | |
| | 2000 TYKW | 45 | 0450 | 0453.2 | 5 | 81.0 | 13.0 | | |
| | 1000 TYKW | 45 | 0450 | 0454 | 6 | 65.0 | 13.0 | | |
| | 500 HIRA | 45 | 0450 | 0454.2 | 5 | 10.0 | 3.0 | | |
| | 100 HIRA | 45 | 0459 E | 0501.2U | 4 U | 1000.0U | 180.0U | | |
| | 100 HIRA | 27 | 0503 | 0506.5 | 65 | 35.0 | 10.0 | | |
| | 200 GORK | 44 | 0609 | | 351 | | 5.0 | | |
| | 204 KIEV | 44 | 0700 E | | 380 D | 170.0D | 15.0 | | |
| | 100 HIRA | 45 | 0655.7 | 0655.8 | 2 | 170.0 | 30.0 | | |
| | 100 GORK | 41 | 0655.7 | 0655.8 | 2 | 55.0 | | | |
| | 100 GORK | | 0655.7 | 0656.6 | | 50.0 | | | |
| | 200 GORK | 6 | 0656.9 | 0657 | .5 | 140.0 | 70.0 | | |
| | 100 HIRA | 5 | 0703.8 | 0704 | 1 | 280.0 | 40.0 | | |
| | 200 GORK | 6 | 0707.1 | 0707.7 | .8 | 35.0 | 15.0 | | |
| | 100 GORK | 6 | 0707 | 0707.8 | 1.3 | 55.0 | 25.0 | | |
| | 113 POTS | 45 | 0736.9 | 0736.9 | .5 | 1400.0 | 250.0 | | |
| | 100 GORK | 6 | 0736.9 | 0737.3U | 1.3 | 55.0 | | | |
| | 100 GORK | 41 | 0804 | 0804.1 | 1.5 | 55.0 | | | |
| | 100 GORK | | 0804 | 0805.2 | | 55.0 | | | |
| | 100 GORK | 6 | 0809.8 | 0810.3 | .8 | 50.0 | | | |
| | 113 POTS | 8 | 0810.1 | 0810.2 | .1 | 600.0 | 200.0 | | |
| | 200 GORK | 6 | 0820.8 | 0820.9 | .4 | 80.0 | 40.0 | | |
| | 237 TRST | 42 | 0828.2 | 0828.3 | 10.1 | 130.0 | | | |
| | 200 GORK | 6 | 0828.1 | 0828.3 | .8 | 160.0 | 80.0 | | |
| | 221 ABST | 1 | 0830 | 0830.2 | .8 | 63.0 | | | |
| | 4995 CANR | 3 | 0901.5 | 0902 | 1 | 4.0 | 2.0 | | |
| | 1420 CANR | 3 | 0901.5 | 0902.5 | 3.5 | 1.0 | | | |
| | 1420 CANR | 3 | 0931 | 0932.5 | 2.5 | 5.0 | 2.0 | | |
| | 113 POTS | 41 | 0946.8 | 0947.1 | 2.9 | 250.0 | 4.0 | | |
| | 29 UPIC | 45 | 0947 | 0950 | 40 | | | | |
| | 100 GORK | 41 | 0948.8 | 0949 | 1.5 | 60.0 | | | |
| | 100 GORK | | 0948.8 | 0949.5 | | 60.0 | | | |
| | 237 TRST | 41 | 1051.4 | 1052.7 | 1.5 | 110.0 | | | |
| | 210 IZMI | 6 | 1051.9 | 1052.3 | 1 | 210.0 | 120.0 | | |
| | 200 GORK | 6 | 1051.4 | 1052.9 | 2.1 | 240.0 | 120.0 | | |
| | 113 POTS | 45 | 1051.4 | 1052.7 | 2.7 | 7000.0 | 100.0 | | |
| | 100 GORK | 41 | 1051.4 | | 3 | 60.0 | | | |
| | 100 GORK | | 1051.4 | 1054.1 | | 60.0 | | | |
| | 29 UPIC | 45 | 1051 | 1052.5 | 4 | | | | |
| | 23 POTS | 45 | 1051.5 | 1053.6 | 3.1 | 10000.0 | 1700.0 | | |
| | 221 ABST | 3 | 1053.5 | 1055.2 | 1.8 | 53.0 | 5.0 | | |
| | 100 GORK | 6 | 1105.6 | 1105.7 | .5 | 50.0 | 25.0 | | |
| | 930 BORD | 3 | 1106 | 1106.4 | 1 | 21.0 | 1.0 | | |
| | 408 TRST | 41 | 1110.5 | 1110.7 | 1.4 | 34.0 | | | |
| | 550 KIEV | 41 | 1144.1 | 1151.7 | 8 | 45.0 | | | |
| | 930 BORD | 3 | 1155 | 1155.4 | 1 | 22.0 | 1.0 | | |
| | 237 TRST | 41 | 1317.4 | 1317.9 | .7 | 320.0 | | | |
| | 237 TRST | 41 | 1319.4 | 1319.7 | .3 | 91.0 | | | |
| | 40 POTS | 8 | 1350.1 | 1350.1 | .1 | 7500.0 | 2500.0 | | |
| | 245 SGMR | 43 | 1352 U | 1629.4 | 452 D | 57.1 | | | |
| | 245 BOUL | 42 | 1624 | 1643 | 208 | | | 1 | |
| | 18 MCMA | 6 | 1630 | 1631 | 3 | | | 1 | |
| | 960 PENN | 41 | 2043.7 | 2048.3 | 7.4 | 2.8 | | | |
| | 1420 BOUL | 3 | 2046.5 | 2047.5 | 2 | 7.0 | 3.0 | | |
| | 2800 OTTA | 1 | 2047 | 2048.5 | 2 | 8.0 | 4.0 | | |
| | 2700 PENN | 1 | 2047.1 | 2048.4 | 5.8 | 7.6 | 2.1 | | |
| | 2695 SGMR | 2 | 2047.2 | 2048.5 | 2.6 | 7.4 | 2.5 | | |
| | 1415 SGMR | 2 | 2047.5 | 2048.4 | 4.1 | 9.0 | 3.2 | | |
| | 2800 OTTA | 29 | 2049 | | 35 | 2.8 | 1.0 | | |
| | 2695 BOUL | 3 | 2247.5 | 2249 | 2 | 10.0 | 3.0 | | |
| 10 | 3750 TYKW | 1 | 0338 | 0338.3 | 2 | 2.0 | 1.0 | | |
| | 2000 TYKW | 3 | 0338 | 0338.2 | 2 | 14.0 | 3.0 | | |
| | 100 HIRA | 5 | 0616.7 | 0616.8 | 1 | 85.0 | 35.0 | | |
| | 100 HIRA | 45 | 0618 | 0618.4 | 1.5 | 70.0 | 30.0 | | |
| | 204 KIEV | 42 | 1100 | | 120 | 12.0 | 7.0 | | |
| | 7000 SAOP | 22 | 1136.7 | | 41.8 | 12.3 | | | |
| | 3100 CRIM | 1 | 1145 | 1152 | 17 | 2.0 | 1.0 | | |
| | 930 BORD | 1 | 1206 | 1206.4 | 1 | 14.0 | 2.0 | | |
| | 2800 OTTA | 1 | 1521 | 1522 | 2 | .8 | 0.4 | | |
| | 2695 BOUL | 3 | 1715.5 | 1717 | 2.5 | 6.0 | 2.0 | | |
| | 2695 BOUL | 45 | 1801.5 | 1804.5 | 16.5 | 47.0 | 12.0 | | |
| | 2695 BOUL | 45 | 1859.5 | 1900.5 | 2 | 11.0 | 3.0 | | |
| | 2800 OTTA | 21 | 1905 | 1930 | 180 | 3.4 | 2.0 | | |
| | 2700 PENN | 20 | 1906.6 | 1931.7 | 106 | 4.6 | 2.3 | | |
| | 18 MCMA | 6 | 2055 | 2057 | 3 | | | 1 | |
| | 1420 BOUL | 8 | 2112 | 2112.5 | 1 | 8.0 | 3.0 | | |
| | 2800 OTTA | 1 | 2113 | 2113.5 | 2 | 1.2 | 0.6 | | |
| | 18 MCMA | 41 | 2119 | 2130 | 12 | | | 1 | |
| | 2695 BOUL | 45 | 2132.5 | 2133.5 | 1.5 | 10.0 | 3.0 | | |
| | 18 MCMA | 6 | 2203 | 2204 | 2 | | | 1 | |
| | 18 MCMA | 6 | 2215 | 2216 | 2 | | | 1 | |
| | 18 MCMA | 6 | 2246 | 2247 | 2 | | | 1 | |

# SOLAR RADIO EMISSION
# OUTSTANDING OCCURRENCES

## JANUARY 1973

| JAN. 1973 | FREQUENCY | STATION | TYPE | STARTING TIME UT | TIME OF MAXIMUM UT | DURATION MINUTES | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ PEAK | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ MEAN | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 4995 | CRON | 45 | 0035 | 0051 | 61 | 190.0 | 63.0 | | |
| | 2695 | CRON | 45 | 0035 | 0047.5 | 35 | 58.0 | 15.0 | | |
| | 3750 | TYKW | 45 | 0036 | 0051.5 | 27 | 90.0 | 28.0 | | |
| | 2695 | MANI | 22 | 0036.8 | 0048.4 | 25 | 50.0 | 12.2 | | |
| | 2000 | TYKW | 45 | 0036 | 0048.3 | 27 | 68.0 | 12.0 | | |
| | 1420 | CRON | 41 | 0036 | 0038 | 32.5 | 69.0 | 10.0 | | |
| | 1415 | MANI | 22 | 0036.4 | 0037.4 | 27.1 | 77.0 | 22.0 | | |
| | 1000 | TYKW | 45 | 0036 | 0048.9 | 27 | 170.0 | 16.0 | | |
| | 4995 | MANI | 46 | 0037.1 | 0051.1 | 26.1 | 205.0 | 58.0 | | |
| | 606 | MANI | 40 | 0037.2 | 0051.3 | 23.9 | 71.0 | 15.0 | | |
| | 208 | VORO | 48 | 0037 | 0048 | 24 | 240.0 | 60.0 | | |
| | 200 | HIRA | 45 | 0037 | 0048 U | 23 | 440.0 | 25.0 | | |
| | 100 | HIRA | 45 | 0037 | 0037.1 | 3.5 | 45.0 | 15.0 | | |
| | 9400 | TYKW | 45 | 0038 | 0049.4 | 23 | 890.0 | 190.0 | | |
| | 500 | HIRA | 45 | 0039.7 | | 18 | | 20.0 | | |
| | 500 | HIRA | | 0039.7 | 0044.6 | | 80.0 | | | |
| | 500 | HIRA | | 0039.7 | 0050.2 | | 60.0 | | | |
| | 8800 | MANI | 47 | 0043.6 | 0049.3 | 22.1 | 810.0 | 186.0 | | |
| | 100 | HIRA | 45 | 0043.5 | 0048.7 | 57 | 170.0 | 20.0 | | |
| | 9500 | HIRA | 45 | 0047.5 | 0049.5 | 24.5 | 330.0 | 85.0 | | |
| | 9400 | TYKW | 29 | 0101 | | 25 | 10.0 | 5.0 | | |
| | 3750 | TYKW | 29 | 0103 | | 120 | 6.0 | 3.0 | | |
| | 3750 | TYKW | 20 | 0144 | 0148 | 15 | 2.0 | 1.0 | | |
| | 237 | TRST | 45 | 0944.9 | 0945.1 | .4 | 330.0 | 97.0 | | |
| | 113 | POTS | 45 | 1005.2 | 1005.3 | .1 | 300.0 | 75.0 | | |
| | 9100 | GORK | 20 | 1120.8 | 1133.5U | 16.2 | 30.0 | 8.5 | | |
| | 237 | TRST | 42 | 1250.9 | 1254.1 | 3.4 | 130.0 | | | |
| | 237 | TRST | 45 | 1315.7 | 1315.9 | .2 | 48.0 | 12.0 | | |
| | 2700 | PENN | 8 | 1335.5 | 1335.6 | .2 | 11.3 | | | |
| | 245 | SGMR | 6 | 1531.2 | 1535 | 8 | 12.5 | 2.0 | | |
| | 410 | SGMR | 6 | 1535 | 1535.1 | 1.2 | 3.9 | .5 | | |
| | 2800 | OTTA | 1 | 1637 | 1637.5 | 1 | 1.0 | 0.5 | | |
| | 10700 | PENN | 1 | 1715.2 | 1716.9 | 2.9 | 6.3 | 2.1 | | |
| | 2800 | OTTA | 2 | 1715.5 | 1716.5 | 2.5 | 4.4 | 2.2 | | |
| | 2700 | PENN | 1 | 1715.5 | 1716.4 | 2.3 | 5.6 | 2.6 | | |
| | 2695 | SGMR | 1 | 1715.4 | 1716.6 | 3.6 | 5.0 | 2.5 | | |
| | 1420 | BOUL | 3 | 1715 | 1716.5 | 2.5 | 4.0 | 2.0 | | |
| | 1415 | SGMR | 1 | 1715.8 | 1717 | 3.2 | 4.6 | 2.3 | | |
| | 606 | SGMR | 3 | 1715.3 | 1717.1 | 3.2 | 24.4 | 9.8 | | |
| | 410 | SGMR | 6 | 1715.3 | 1716.5 | 3.3 | 6.7 | 3.1 | | |
| | 245 | SGMR | 6 | 1715.1 | 1716.2 | 3.6 | 16.5 | 6.1 | | |
| | 18 | MCMA | 6 | 1715 | 1716 | 2 | | | 1 | |
| | 410 | SGMR | 48 | 1752.3 | 1806.5 | 31 | 528.0 | 150.0 | | |
| | 245 | BOUL | 41 | 1753 | 1806 | 24 | | | 3 | |
| | 606 | SGMR | 23 | 1754.8 | 1801.9 | 33.2 | 15.8 | 7.0 | | |
| | 15400 | SGMR | 21 | 1755 | 1814.2 | 35 | 24.7 | 11.0 | | |
| | 8800 | SGMR | 21 | 1755 | 1805.6 | 41.1 | 13.4 | 6.0 | | |
| | 2695 | SGMR | 21 | 1755.8 | 1807 | 29.6 | 7.0 | 3.0 | | |
| | 4995 | SGMR | 21 | 1756.3 | 1807 | 31.2 | 14.3 | 6.5 | | |
| | 245 | SGMR | 6 | 1757.3 | 1806.5 | 37.3 | 200.0 | 60.0 | | |
| | 4995 | BOUL | 45 | 1800.5 | 1809 | 12 | 97.0 | 21.0 | | |
| | 4995 | SGMR | 46 | 1800.6 | 1802.4 | 5.9 | 9.3 | 10.0 | | |
| | 4995 | SGMR | 46 | | 1803.6 | | 32.2 | | | |
| | 2800 | OTTA | 46 | 1800.5 | 1809 | 15 | 33.0 | 13.1 | | |
| | 2800 | OTTA | 46 | 1800.5 | 1803.5 | 6.5 | 27.8 | | | |
| | 2800 | OTTA | 46 | 1807 | 1809 | 3.5 | 33.0 | | | |
| | 2800 | OTTA | 46 | 1810.5 | 1811.9 | 5 | 24.0 | | | |
| | 2700 | PENN | 45 | 1800.2 | 1803.8 | 18 | 95.0 | | | |
| | 2695 | SGMR | 46 | 1800.6 | 1802.3 | 5.9 | 17.8 | 10.0 | | |
| | 2695 | SGMR | 46 | | 1803.6 | | 36.6 | | | |
| | 2695 | SGMR | 46 | | 1805.5 | | 18.0 | | | |
| | 1420 | BOUL | 45 | 1800 | 1807 | 9.5 | 109.0 | 5.0 | | |
| | 960 | PENN | 45 | 1800.3 | 1806 | 20.2 | 29.0 | | | |
| | 10700 | PENN | 3 | 1801 E | 1809.3 | 26 D | 445.0 | | | |
| | 9400 | HUAN | 28 | 1801.3 | 1806.6 | 5.3 | 44.7 | 15.8 | | |
| | 8800 | SGMR | 4 | 1801.7 | 1803.6 | 3 | 21.0 | 9.0 | | |
| | 1415 | SGMR | 21 | 1801.8 | 1806.5 | 36.9 | 8.3 | 3.5 | | |
| | 1415 | SGMR | 1 | 1801.8 | 1803.9 | 3.5 | 5.6 | 2.0 | | |
| | 15400 | SGMR | 1 | 1803.2 | 1803.5 | 1.1 | 6.5 | 3.0 | | |
| | 7000 | SAOP | 3 | 1803.6 | 1809.7 | 10.4 | 227.0 | 76.2 | | |
| | 35000 | SGMR | 3 | 1805 | 1809.2 | 15.5 | 235.0 | 95.0 | | |
| | 15400 | SGMR | 4 | 1805.6 | 1809.1 | 8.4 | 455.0 | 125.0 | | |
| | 8800 | SGMR | 4 | 1805.6 | 1809.2 | 9.4 | 360.0 | 100.0 | | |
| | 1415 | SGMR | 8 | 1805.6 | 1805.7 | .3 | 100.0 | 35.0 | | |
| | 606 | SGMR | 4 | 1805.6 | 1806.2 | 1.6 | 285.0 | 100.0 | | |
| | 9400 | HUAN | 45 | 1806.6 | 1808.9 | 5.1 | 409.6 | 135.5 | | |
| | 4995 | SGMR | 46 | 1807.2 | 1809.1 | 7.5 | 81.0 | 20.0 | | |
| | 4995 | SGMR | 46 | | 1811.8 | | 28.2 | | | |
| | 2695 | SGMR | 46 | 1807.3 | 1809.1 | 7.4 | 21.8 | 7.0 | | |
| | 2695 | SGMR | 46 | | 1811.8 | | 14.0 | | | |
| | 1415 | SGMR | 1 | 1808.2 | 1809.3 | 7.3 | 5.3 | 2.0 | | |
| | 7000 | SAOP | 29 | 1810.7 | | 20.4 | | | | |
| | 9400 | HUAN | 29 | 1811.7 | 1811.7 | 10.6 | 55.9 | 15.5 | | |
| | 2800 | OTTA | 29 | 1815.5 | | 12 | 2.0 | 0.7 | | |
| | 1420 | BOUL | 45 | 1856 | 1900 | 6 | 9.0 | 3.0 | | |
| | 2700 | PENN | 3 | 1857.5 | 1900.4 | 6.9 | 10.2 | 4.6 | | |
| | 2695 | SGMR | 1 | 1857.8 | 1900 | 3.6 | 6.8 | 3.4 | | |
| | 960 | PENN | 45 | 1857 | 1858.1 | | 22.0 | | | |
| | 410 | SGMR | 7 | 1857.5 | 1859 | 7.3 | 300.0 | 120.0 | | |
| | 245 | SGMR | 48 | 1857.2 | 1900 | 6 | 1100.0 | 430.0 | | |

# SOLAR RADIO EMISSION
## OUTSTANDING OCCURRENCES

JANUARY 1973

| JAN. 1973 | FREQUENCY | STATION | TYPE | STARTING TIME UT | TIME OF MAXIMUM UT | DURATION MINUTES | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ PEAK | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ MEAN | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | 245 | BOUL | 41 | 1857 | 1859 | 6 | | | 3 | |
| | 4995 | SGMR | 1 | 1858.5 | 1900 | 3.4 | 3.7 | 1.8 | | |
| | 2800 | OTTA | 2 | 1858.9 | 1900' | 2.5 | 8.0 | 2.0 | | |
| | 1415 | SGMR | 1 | 1858.5 | 1900.3 | 4.5 | 9.2 | 4.6 | | |
| | 606 | SGMR | 4 | 1858.7 | 1900.2 | 3.6 | 82.0 | 32.2 | | |
| | 8800 | SGMR | 1 | 1859.3 | 1900.1 | 2.2 | 2.5 | 1.2 | | |
| | 4995 | BOUL | 3 | 1859 | 1900 | 1.5 | 8.0 | 2.0 | | |
| | 4995 | BOUL | 3 | 1931 | 1932 | 4 | 9.0 | 4.0 | | |
| | 2695 | PENT | 45 | 2131.9 | 2132.6 | 2 | 7.8 | 3.9U | | |
| | 1420 | BOUL | 45 | 2131.5 | 2132 | 1.5 | 5.0 | 2.0 | | |
| | 100 | HIRA | 45 | 2258 | 2258.2 | 1 | 45.0 | 10.0 | | |
| | 208 | VORO | 6 | 2318 | 2318.5 | 1 | 308.0 | 200.0 | | |
| 12 | 2695 | CANR | 3 | 1139.5 | 1140 | 1 | 4.0 | 1.0 | | |
| | 4995 | CANR | 3 | 1140 | 1140.5 | 1.5 | 10.0 | 3.0 | | |
| | 7000 | SAOP | 41 | 1153.8 | | 46.4 | 15.3 | | | |
| | 7000 | SAOP | 22 | 1153.8 | | 16.3 | 15.3 | | | |
| | 2695 | CANR | 3 | 1153 | 1153.5 | 1 | 3.0 | 1.0 | | |
| | 2695 | CANR | 3 | 1157.5 | 1158.5 | 1.5 | 7.0 | 2.0 | | |
| | 4995 | CANR | 3 | 1158.5 | 1159 | 4 | 7.0 | 3.0 | | |
| | 2830 | ARCE | 1 | 1158.9 | 1159.7 | 2 | | | | |
| | 1420 | ARCE | 2 | 1158.8 | 1159 U | 2.3 | | | | |
| | 408 | TRST | 42 | 1158.6 | 1159.7 | 2.3 | 36.0 | | | |
| | 9500 | BERL | 1 | 1159 | 1159.5 | 5.5 | 7.1 | 3.0 | | |
| | 9285 | ARCE | 22 | 1159 | 1228.3 | 97 | | | | |
| | 3000 | BERL | 1 | 1159 | 1159.5 | 4.4 | 4.0 | 1.5 | | |
| | 1500 | BERL | 1 | 1159 | 1159.8 | 2 | 1.6 | 0.4 | | |
| | 2830 | ARCE | 21 | 1205.9 | 1228.3 | 61 | | | | |
| | 2695 | CANR | 3 | 1208.5 | 1210 | 5 | 12.0 | 5.0 | | |
| | 1500 | BERL | 23 | 1208 | 1211.3 | 27 | 4.0 | | | |
| | 3000 | BERL | 23 | 1209 | 1211 | 54 | 13.0 | | | |
| | 1420 | ARCE | 22 | 1209.3 | 1211.5 | 12 | | | | |
| | 9500 | BERL | 20 | 1210 | 1211 | 25 | 5.7 | | | |
| | 7000 | SAOP | 22 | 1210.1 | | 22.8 | 10.9 | | | |
| | 4995 | CANR | 3 | 1210 | 1211 | 2.5 | 12.0 | 4.0 | | |
| | 2830 | ARCE | 3 | 1210.5 | 1211.5 | 3.5 | | | | |
| | 1420 | CANR | 3 | 1210.5 | 1211.5 | 3 | 3.0 | 1.0 | | |
| | 930 | BORD | 45 | 1233 | 1233.8 | 2 | 68.0 | 3.0 | | |
| | 7000 | SAOP | 4 | 1236.7 | 1238.6 | 3.2 | 10.9 | 5.7 | | |
| | 7000 | SAOP | 4 | 1334.4 | 1336.6 | 5.7 | 10.9 | 7.7 | | |
| | 7000 | SAOP | 22 | 1411.6 | | 29.6 | 10.6 | | | |
| | 7000 | SAOP | 24 | 1648.4 | | 120 E | 21.3 | | | |
| | 7000 | SAOP | 22 | 1659.6 | | 14.8 | 12.8 | | | |
| | 7000 | SAOP | 22 | 1713.5 | | 14.2 | 9.8 | | | |
| | 2800 | OTTA | 21 | 1715 | 1828 | 160 | 2.8 | 1.4 | | |
| | 2800 | OTTA | 1 | 1743 | 1744 | 2 | 1.0 | 0.5 | | |
| | 7000 | SAOP | 4 | 1746.2 | 1748.8 | 5.1 | 9.8 | 3.8 | | |
| | 2695 | SGMR | 20 | 1820 | 1828.9 | 20.6 | 3.4 | 1.7 | | |
| | 8800 | SGMR | 20 | 1821.7 | 1825.7 | 13.3 | 7.3 | 3.6 | | |
| | 15400 | SGMR | 20 | 1822.8 | 1827.6 | 10.5 | 6.4 | 3.2 | | |
| | 4995 | SGMR | 20 | 1822.7 | 1827.1 | 10.6 | 3.2 | 1.6 | | |
| | 7000 | SAOP | 22 | 1826.1 | | 17.4 | 11.7 | | | |
| | 2800 | OTTA | 1 | 1938.5 | 1939.5 | 2.5 | 1.4 | 0.7 | | |
| | 2700 | PENN | 1 | 1939 | 1939.8 | 1.6 | 3.2 | 1.2 | | |
| | 960 | PENN | 45 | 1939.1 | 1939.4 | 2.3 | 10.5 | 2.1 | | |
| 13 | 3750 | TYKW | 1 | 0148 | 0149.2 | 3 | 5.0 | 2.0 | | |
| | 2000 | TYKW | 1 | 0148 | 0149.7 | 4 | 5.0 | 2.0 | | |
| | 1000 | TYKW | 1 | 0148 | 0149.3 | 3 | 5.0 | 2.0 | | |
| | 9400 | TYKW | 20 | 0448 | 0454 | 15 | 4.0 | 2.0 | | |
| | 606 | MANI | 40 | 0448.5 | 0450.9 | 4.2 | 23.6 | 3.5 | | |
| | 3750 | TYKW | 1 | 0450 | 0451 | 6 | 2.0 | 1.0 | | |
| | 29 | UPIC | 45 | 0918 | 0920 | 8 | | | | |
| | 2800 | OTTA | 20 | 1335 | 1410 | 115 | 4.2 | 2.3 | | |
| | 7000 | SAOP | 22 | 1434.2 | | 23.3 | 7.0 | | | |
| | 2800 | OTTA | 20 | 1542 | 1750 | 220 | 4.2 | 2.1 | | |
| | 7000 | SAOP | 22 | 1601.3 | | 18.8 | 10.6 | | | |
| 14 | 2000 | TYKW | 1 | 0350 | 0350.5 | 1 | 2.0 | 1.0 | | |
| | 1000 | TYKW | 1 | 0350 | 0350.5 | 1 | 1.0 | 0.5 | | |
| | 100 | GORK | 6 | 1031.7 | 1032.1U | 2.4 | 70.0 | | | |
| | 100 | GORK | 6 | 1031.7 | 1032.1U | 2.4 | 70.0 | | | |
| 15 | 930 | BORD | 1 | 1209 | 1209.3 | 1 | 13.0 | 1.0 | | |
| | 18 | MCMA | 6 | 1324 | 1327 | 4 | | | 1 | |
| | 9400 | HUAN | 20 | 1357.2 | 1440.8 | 136 | 9.6 | 4.0 | | |
| | 2695 | BOUL | 3 | 2301 | 2302 | 1.5 | 7.0 | 3.0 | | |
| 16 | 1420 | CRON | 3 | 0121 | 0123 | 3 | 2.0 | 1.0 | | |
| | 410 | SGMR | 6 | 1817.8 | 1817.9 | 1 | 4.2 | 1.0 | | |
| | 245 | SGMR | 6 | 1817.5 | 1817.8 | 2.7 | 27.8 | 4.0 | | |
| 17 | 200 | HIRA | 45 | 0023.5 | 0023.8 | .5 | 80.0 | 20.0 | | |
| | 100 | HIRA | 5 | 0023.2 | 0023.4 | .8 | 30.0 | 10.0 | | |
| | 100 | HIRA | 5 | 0455.3 | 0455.7 | 1.5 | 30.0 | 15.0 | | |
| | 100 | HIRA | 45 | 0549.3 | 0549.5 | .7 | 70.0 | 30.0 | | |
| | 221 | ABST | 3 | 0812.8 | 0814.2 | 1 | 23.0 | 5.0 | | |
| | 237 | TRST | 41 | 0813.7 | 0813.9 | 1.2 | 140.0 | | | |
| | 210 | IZMI | 41 | 0813 | 0819 | 6 | 165.0 | | | |
| | 204 | KIEV | 6 | 0813.5 | 0813.9 | 1.5 | 27.0 | | | |

# SOLAR RADIO EMISSION
# OUTSTANDING OCCURRENCES

## JANUARY 1973

| JAN. 1973 | FREQUENCY | STATION | TYPE | STARTING TIME | TIME OF MAXIMUM | DURATION | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ | | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UT | UT | MINUTES | PEAK | MEAN | | |
| | 200 | GORK | 41 | 0813.7 | 0814.1 | 5.2 | 65.0 | | | |
| | 200 | GORK | | 0813.7 | 0818 | | 150.0 | | | |
| | 100 | GORK | 41 | 0813.8 | 0814.2 | 5.4 | 25.0 | | | |
| | 100 | GORK | | 0813.8 | 0818.2 | | 70.0 | | | |
| | 510 | POTS | 40 | 0817.5 | 0817.8 | .8 | 21.0 | 3.0 | | |
| | 237 | TRST | 41 | 0817.4 | 0817.9 | 1.4 | 260.0 | | | |
| | 221 | ABST | 1 | 0817 | 0817.8 | 1.2 | 73.0 | | | |
| | 204 | KIEV | 6 | 0817.4 | 0818.3 | 1.6 | 70.0 | | | |
| | 113 | POTS | 45 | 0817.6 | 0817.6 | 1.2 | 7000.0 | 250.0 | | |
| | 29 | UPIC | 45 | 0818 | 0818.5 | 1 | | | | |
| | 23 | POTS | 8 | 0818 | 0818.2 | .7 | 5000.0 | 1700.0 | | |
| | 204 | KIEV | 41 | 0840 | | 246 | 28.0 | | | |
| | 3100 | CRIM | 20 | 1003 | 1100 | 73 | 2.0 | 1.0 | | |
| | 7000 | SAOP | 22 | 1347.2 | | 54.2 | 13.1 | | | |
| | 1420 | CANR | 8 | 1626.5 | 1627.5 | 2 | 6.0 | 2.0 | | |
| 18 | 1420 | CANR | 3 | 0821 | 0822.5 | 2.5 | 6.0 | 2.0 | | |
| | 2695 | CANR | 3 | 0822 | 0823 | 2 | 5.0 | 2.0 | | |
| | 7000 | SAOP | 22 | 1316.8 | | 60 E | 13.2 | | | |
| | 930 | BORD | 40 | 1425 | 1427.6 | 3 | 28.0 | 2.0 | | |
| | 7000 | SAOP | 22 | 1605.3 | | 67.9 | 17.8 | | | |
| | 9400 | HUAN | 20 | 1614.2 | 1624.9 | 17.2 | 9.4 | 2.8 | | |
| | 9400 | HUAN | 20 | 1653.8 | 1704.1 | 68 | 13.2 | 6.6 | | |
| 19 | 2950 | GORK | 1 | 0641.5 | 0642.6 | 3.4 | 3.6 | 1.8 | | |
| | 1420 | CRON | 45 | 1038.5 | 1040 | 2 | 4.0 | 2.0 | | |
| | 4995 | CRON | 3 | 1040 | 1041 | 2 | 8.0 | 3.0 | | |
| | 2695 | CRON | 45 | 1040 | 1041.5 | 3.5 | 13.0 | 5.0 | | |
| | 7000 | SAOP | 41 | 1357.3 | | 57.3 | 13.2 | | | |
| | 7000 | SAOP | 22 | 1357.3 | | 7.1 | 8.7 | | | |
| | 7000 | SAOP | 22 | 1409.7 | | 4.8 | 8.2 | | | |
| | 7000 | SAOP | 22 | 1414.5 | | 7.5 | 10.3 | | | |
| | 7000 | SAOP | 22 | 1422 | | 6.9 | 8.2 | | | |
| | 7000 | SAOP | 22 | 1428.9 | | 9.2 | 12.3 | | | |
| | 7000 | SAOP | 22 | 1438.1 | | 7.7 | 8.2 | | | |
| | 7000 | SAOP | 22 | 1445.8 | | 11.4 | 10.3 | | | |
| | 9400 | HUAN | 20 | 1531.2 | 1607.5 | 45.4 | 9.4 | 3.8 | | |
| | 930 | BORD | 3 | 1558 | 1558.2 | 1 | 23.0 | 2.0 | | |
| | 2700 | PENN | 45 | 1952.5 | 1952.7 | .5 | 162.0 | 22.9 | | |
| | 2800 | OTTA | 1 | 2135 | 2135.7 | 1.2 | 1.6 | 0.8 | | |
| | 2695 | BOUL | 3 | 2135.5 | 2136.5 | 1.5 | 4.0 | 1.0 | | |
| 20 | 2695 | CANR | 3 | 1111 | 1112 | 2 | 2.0 | 1.0 | | |
| | 7000 | SAOP | 20 | 1140.1 | | 25 E | 9.3 | | | |
| | 1500 | BERL | 4 | 1229 | 1229.5 | 1.5 | 5.7 | 1.1 | | |
| 21 | 4995 | CANR | 45 | 0806.5 | 0809 | 3 | 16.0 | 4.0 | | |
| | 2695 | CANR | 45 | 0806 | 0807 | 2.5 | 8.0 | 3.0 | | |
| | 1420 | CANR | 45 | 0806.5 | 0808 | 3 | 4.0 | 1.0 | | |
| | 4995 | CANR | 3 | 0830.5 | 0832.5 | 3 | 8.0 | 3.0 | | |
| | 2695 | CANR | 3 | 0830 | 0832.5 | 3.5 | 3.0 | 1.0 | | |
| | 1420 | CANR | 3 | 0831 | 0832.5 | 2.5 | 2.0 | 1.0 | | |
| | 410 | SGMR | 6 | 1849.2 | 1859.9 | 17 | 43.9 | 3.0 | | |
| | 245 | SGMR | 6 | 1849 | 1859.9 | 17.2 | 78.0 | 6.0 | | |
| | 2695 | SGMR | 1 | 1859.9 | 1900 | .3 | 6.6 | 3.3 | | |
| | 1415 | SGMR | 1 | 1859.9 | 1900 | .6 | 5.7 | 2.8 | | |
| | 606 | SGMR | 8 | 1859.7 | 1859.8 | .4 | 180.0 | 75.0 | | |
| 22 | 2695 | CRON | 3 | 0529.5 | 0530 | 1.5 | 6.0 | 2.0 | | |
| | 1420 | CRON | 8 | 0530 | 0530.5 | 1 | 12.0 | 5.0 | | |
| | 3750 | TYKW | 45 | 0627 | 0630.2 | 6 | 5.0 | 2.0 | | |
| | 9400 | HUAN | 20 | 1740.6 | 1801.3 | 43.2 | 7.4 | 3.3 | | |
| | 2695 | BOUL | 8 | 2330.5 | 2331 | 1 | 7.0 | 3.0 | | |
| 23 | 408 | TRST | 41 | 1058.3 | 1058.4 | .5 | 33.0 | | | |
| | 7000 | SAOP | 20 | 1358.5 | | 75 E | 13.0 | | | |
| | 2800 | OTTA | 20 | 1400 | 1430 | 115 | 2.0 | 1.0 | | |
| | 18 | MCMA | 6 | 2107 | 2109 | 3 | | | 1 | |
| | 4995 | BOUL | 45 | 2110.5 | 2112 | 4 | 13.0 | 4.0 | | |
| | 4995 | BOUL | 3 | 2122.5 | 2123.5 | 1.5 | 9.0 | 3.0 | | |
| 24 | 2695 | CRON | 3 | 0642 | 0643 | 1.5 | 4.0 | 1.0 | | |
| | 1420 | CRON | 8 | 0643 | 0644 | 1.5 | 6.0 | 2.0 | | |
| | 29 | UPIC | 45 | 1217 | 1218 | 10.5 | | | | |
| | 29 | UPIC | 45 | 1241 | 1242 | 1.5 | | | | |
| | 29 | UPIC | 45 | 1306 | 1306.5 | 23 | | | | |
| 25 | 208 | VORO | 6 | 0043 | 0035 | 2 | 92.0 | 60.0 | | |
| | 29 | UPIC | 45 | 0634 | 0642 | 14.5 | | | | |
| | 29 | UPIC | 45 | 1430 | 1431 | 7 | | | | |
| | 1420 | BOUL | 3 | 1903.5 | 1904.5 | 2.5 | 2.0 | 1.0 | | |
| | 2800 | OTTA | 2 | 2103 | 2105 | 3 | 2.0 | 0.9 | | |
| | 1420 | BOUL | 3 | 2103 | 2105 | 4 | 3.0 | 1.0 | | |
| | 2695 | BOUL | 3 | 2104 | 2105.5 | 2 | 5.0 | 2.0 | | |
| | 245 | SGMR | 6 | 2111.9 | 2112.1 | 4.1 | 8.4 | 3.0 | | |
| | 410 | SGMR | 1 | 2112.6 | 2113 | .9 | 2.2 | 1.0 | | |
| 27 | 221 | ABST | 3 | 0843.2 | 0844.2 | 1.2 | 13.0 | 2.0 | | |
| | 29 | UPIC | 45 | 1159 | 1204 | 9 | | | | |
| 28 | 7000 | SAOP | 22 | 1412.5 | | 32.8 | 17.8 | | | |

# SOLAR RADIO EMISSION
# OUTSTANDING OCCURRENCES

## JANUARY 1973

| JAN. 1973 | FREQUENCY | STATION | TYPE | STARTING TIME UT | TIME OF MAXIMUM UT | DURATION MINUTES | FLUX DENSITY $10^{-22}$ Wm$^{-2}$ Hz$^{-1}$ PEAK | FLUX DENSITY MEAN | INT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | 7000 | SAOP | 8 | 1554.4 | 1554.6 | .6 | 10.7 | 5.3 | | |
| 29 | 18 | MCMA | 6 | 1548 | 1549 | 3 | | | 1 | |
| | 4995 | CANR | 3 | 1819 | 1820 | 1.5 | 14.0 | 5.0 | | |
| | 2695 | CANR | 3 | 1819 | 1820 | 1.5 | 7.0 | 2.0 | | |
| 30 | 2695 | CANR | 3 | 0805.5 | 0806.5 | 1.5 | 5.0 | 2.0 | | |
| | 4995 | CANR | 3 | 0806.5 | 0807 | 1.5 | 12.0 | 5.0 | | |
| | 1420 | CANR | 3 | 0806.5 | 0807.5 | 2 | 4.0 | 2.0 | | |
| | 2695 | CANR | 3 | 0811.5 | 0813.5 | 3 | 6.0 | 2.0 | | |
| | 4995 | CANR | 3 | 0813 | 0814 | 2 | 11.0 | 4.0 | | |
| | 1420 | CANR | 3 | 0813.5 | 0815 | 3 | 3.0 | 1.0 | | |
| | 4995 | CANR | 3 | 0823 | 0824 | 2.5 | 6.0 | 2.0 | | |
| | 7000 | SAOP | 22 | 1141.3 | | 20.1 | 17.9 | | | |
| | 7000 | SAOP | 22 | 1207.9 | | 7.3 | 10.8 | | | |
| | 9400 | HUAN | 20 | 1321 | 1407.5 | 80.8 | 9.4 | 4.1 | | |
| | 245 | SGMR | 6 | 1431 | 1433.6 | 6.2 | 8.2 | 2.5 | | |
| | 606 | SGMR | 1 | 1433.2 | 1433.3 | .2 | 8.7 | 3.5 | | |
| | 410 | SGMR | 6 | 1433.5 | 1433.6 | .7 | 10.4 | 4.0 | | |
| | 9400 | HUAN | 20 | 1546.4 | 1600.9 | 44.9 | 11.3 | 3.9 | | |
| | 4995 | CANR | 3 | 1809.5 | 1811.5 | 2.5 | 8.0 | 3.0 | | |
| | 2695 | CANR | 3 | 1809.5 | 1811 | 2.5 | 5.0 | 2.0 | | |
| | 9400 | TYKW | 45 | 2341.5 | 2344.5 | 5 | 8.0 | 3.0 | | |
| 31 | 4995 | CANR | 3 | 0915 | 0915.5 | 1.5 | 8.0 | 3.0 | | |
| | 2695 | CANR | 21 | 0915 | 0916 | 6.5 | 4.0 | 1.0 | | |
| | 1420 | CANR | 3 | 0915 | 0916 | 1.5 | 2.0 | 1.0 | | |
| | 2695 | SGMR | 1 | 1508.7 | 1508.8 | 1.9 | 4.0 | 1.9 | | |
| | 1415 | SGMR | 1 | 1508.8 | 1508.9 | 2.9 | 8.0 | 3.5 | | |
| | 9400 | HUAN | 20 | 2227.1 | 2233.1 | 13.5 | 17.4 | 6.6 | | |

Observatories:

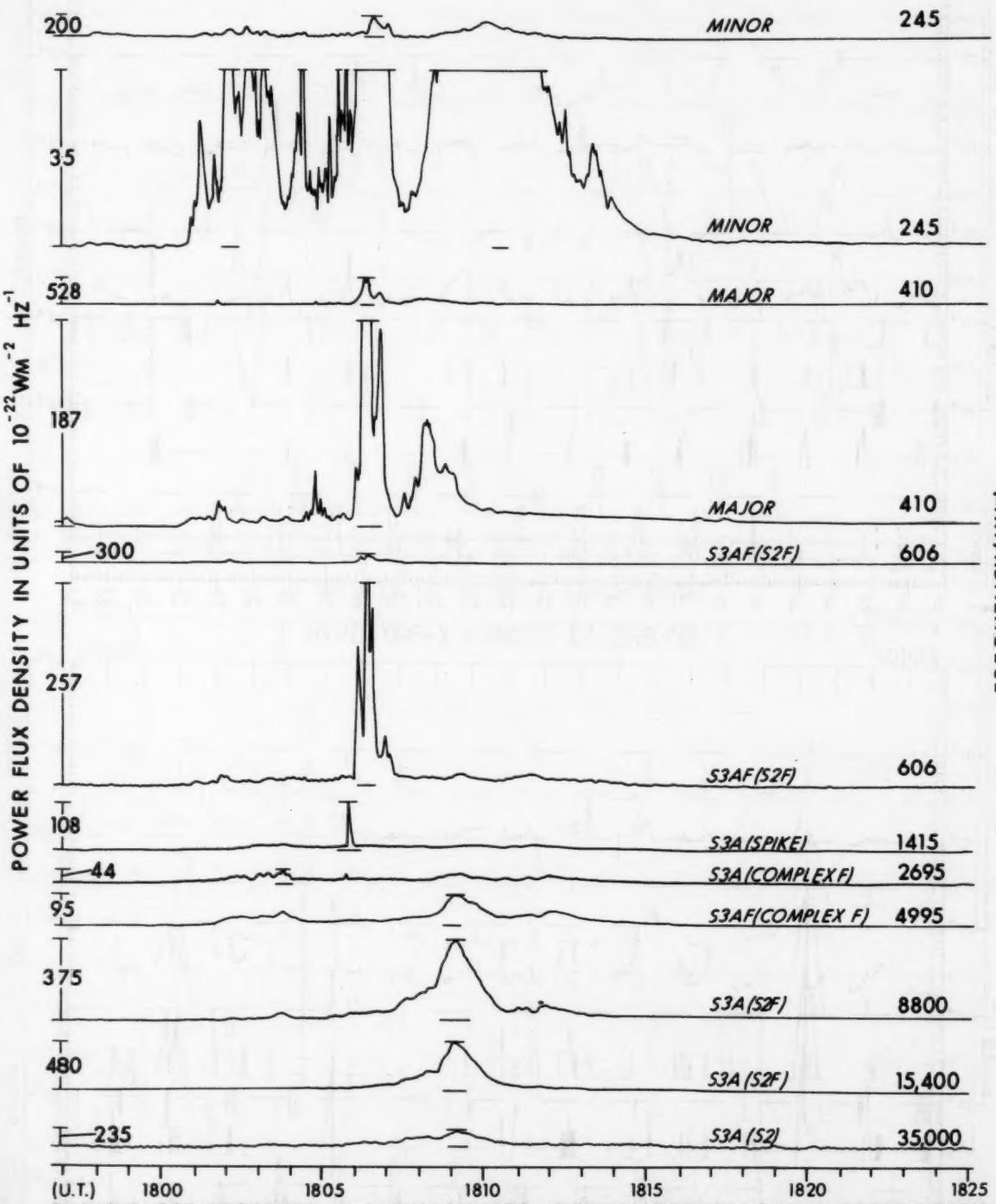
ABST = Abastumani
ARCE = Arcetri
BERL = Berlin-Adlershof
BORD = Bordeaux
BOUL = Boulder
CANR = Canary Islands
CRIM = Simferopol
CRON = Carnarvon
GORK = Gorky
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = Moscow IZMIRAN
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
OTTA = Ottawa ARO
PENN = Penn. State Univ.
PENT = Penticton
POTS = Potsdam
SLOU = Slough
SGMR = Sagamore Hill
TRST = Trieste
TYKW = Toyokawa
UPIC = Upice
VORO = Voroshilov

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

# SELECTED SOLAR NOISE BURSTS

## JANUARY 1973

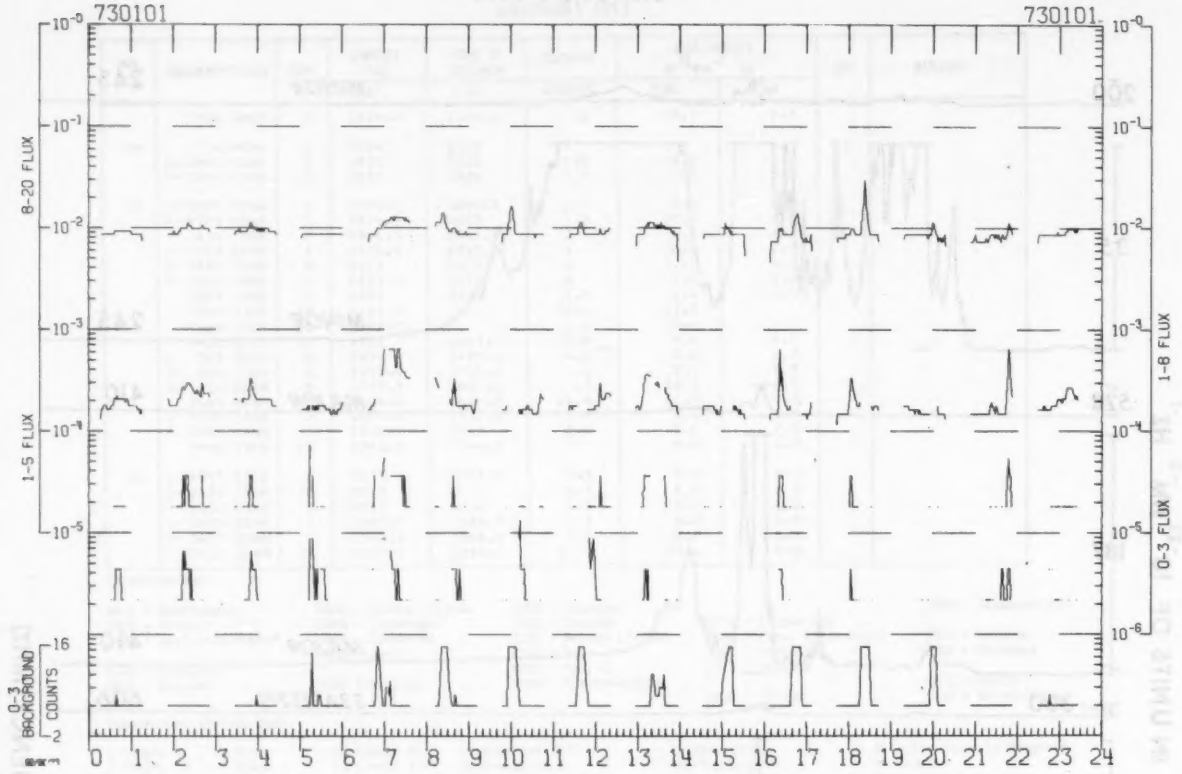



RADIO BURST OBSERVED 11 JANUARY, 1973 AT SAGAMORE HILL RADIO OBSERVATORY
HAMILTON, MASS.

26
Jan 73

# SOLAR X-RAYS MEASURED BY SATELLITE SOLRAD 10 - EXPLORER 44

**JANUARY 1973**

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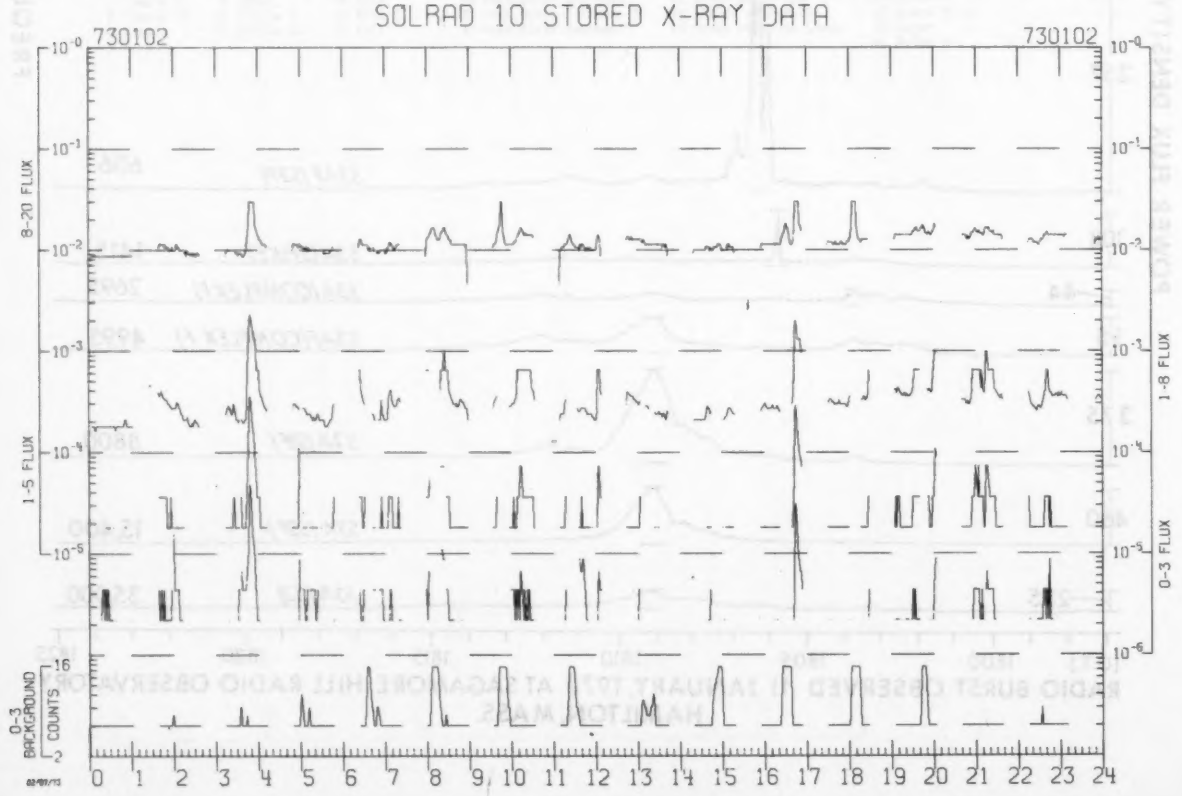

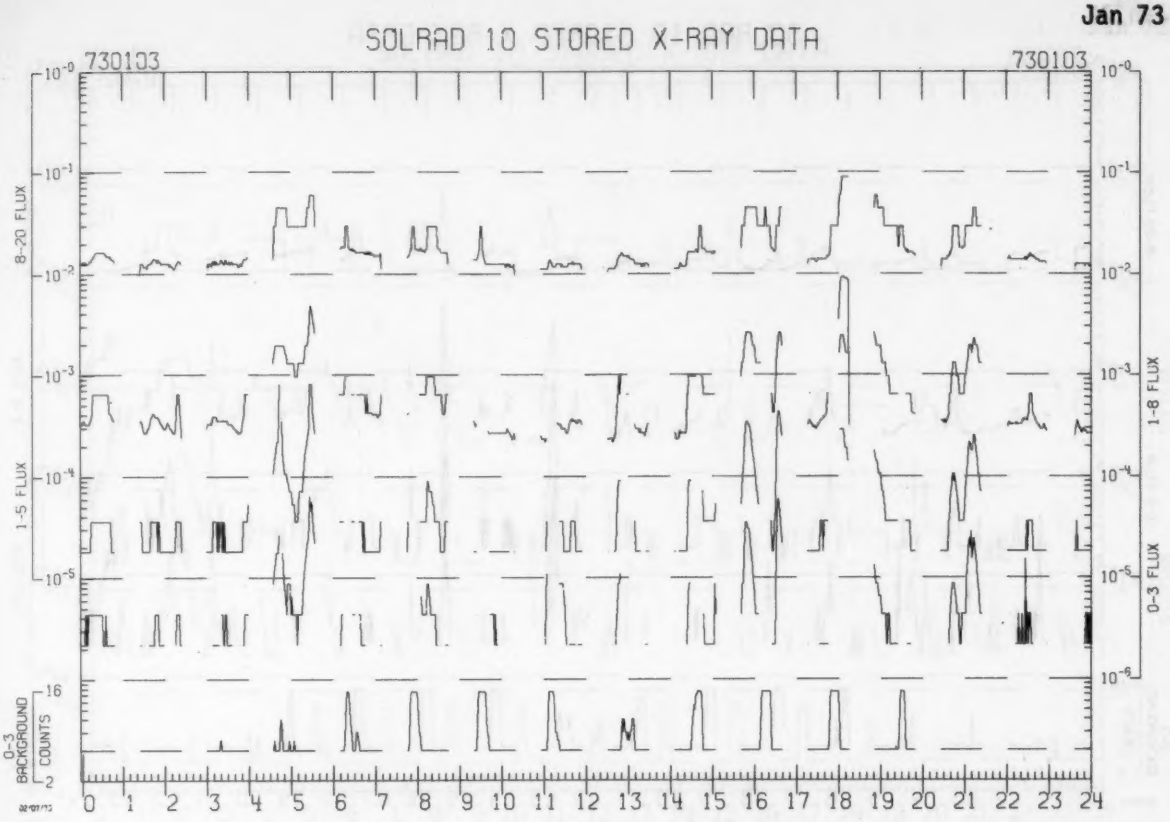
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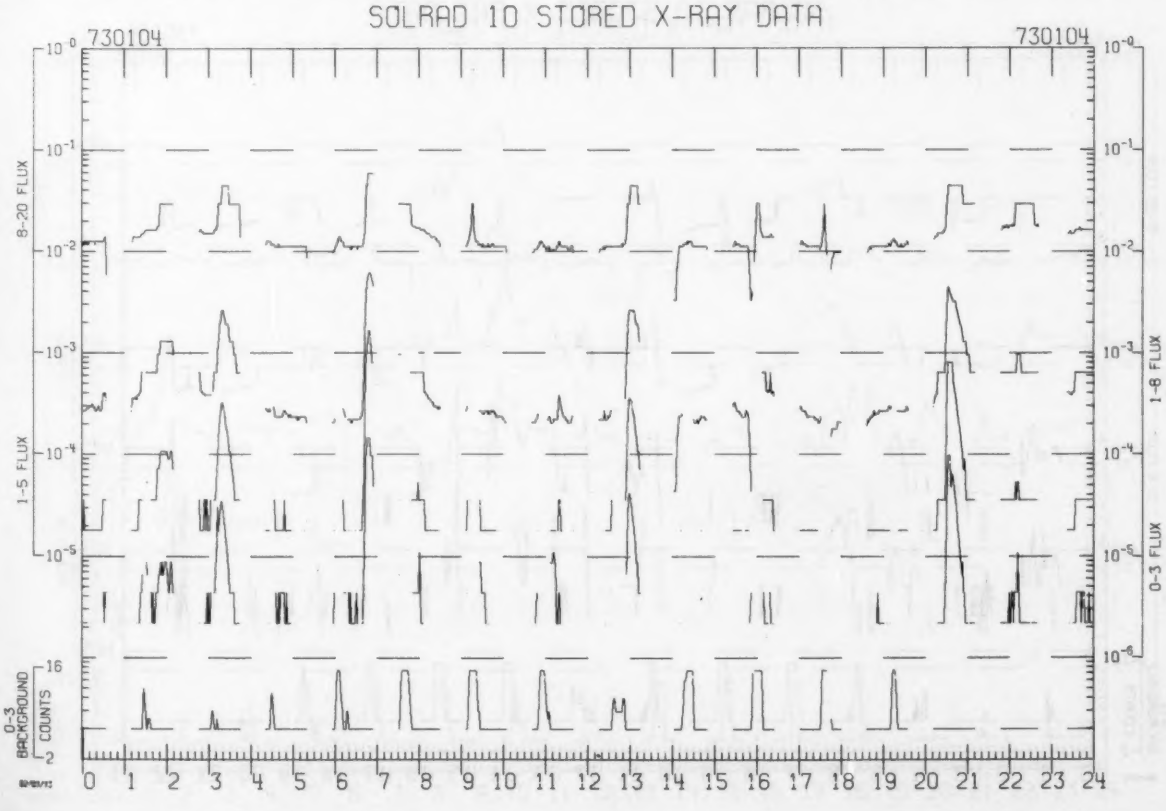
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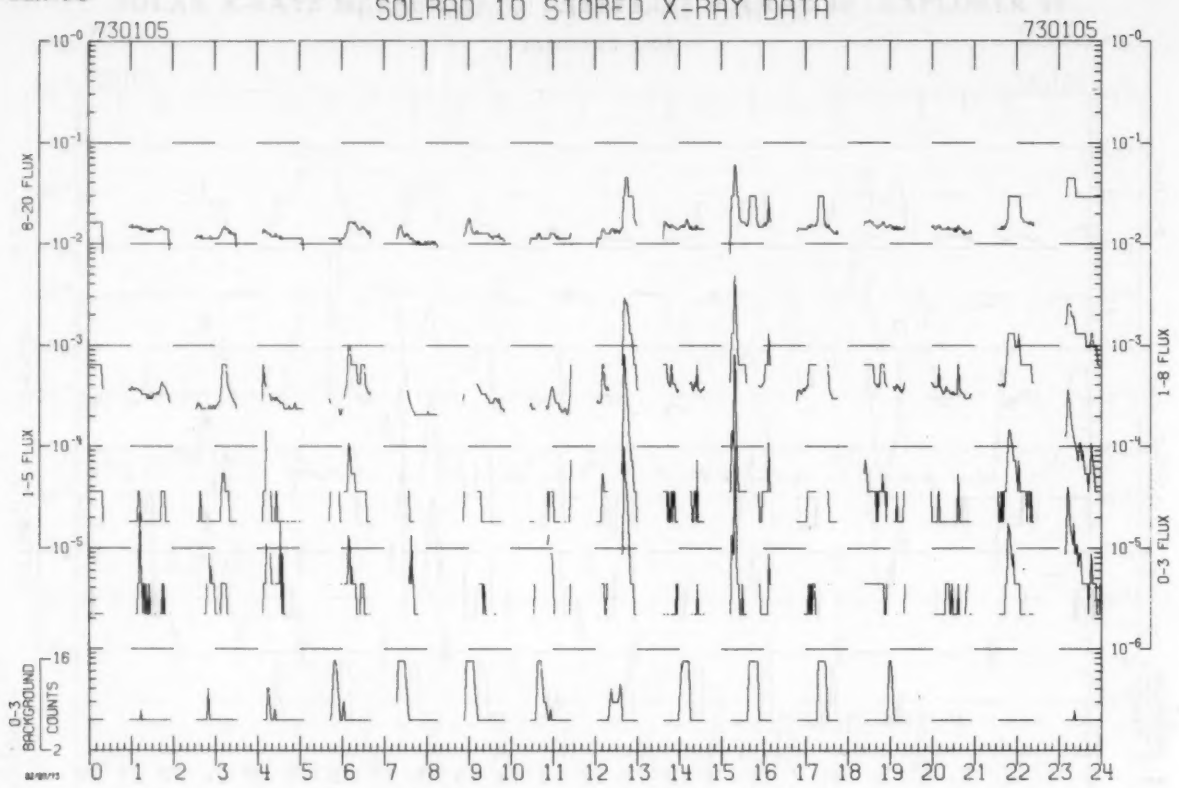
28
Jan 73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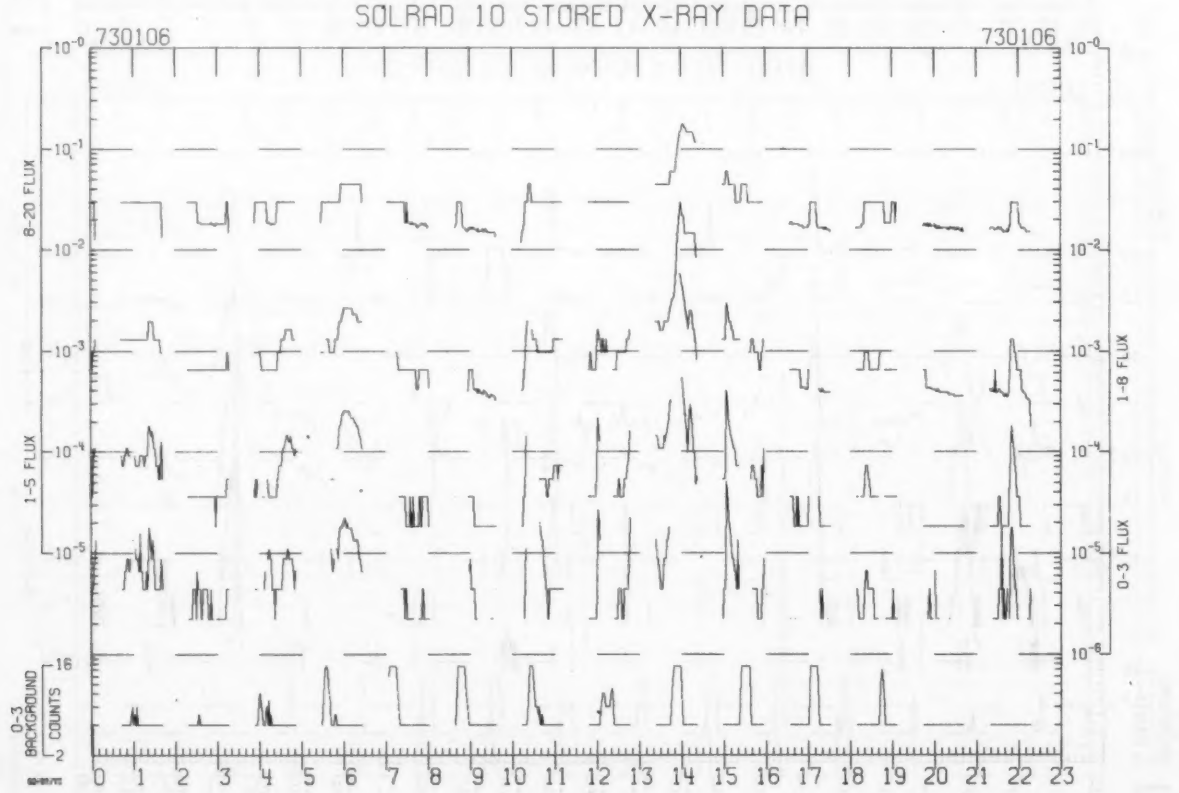
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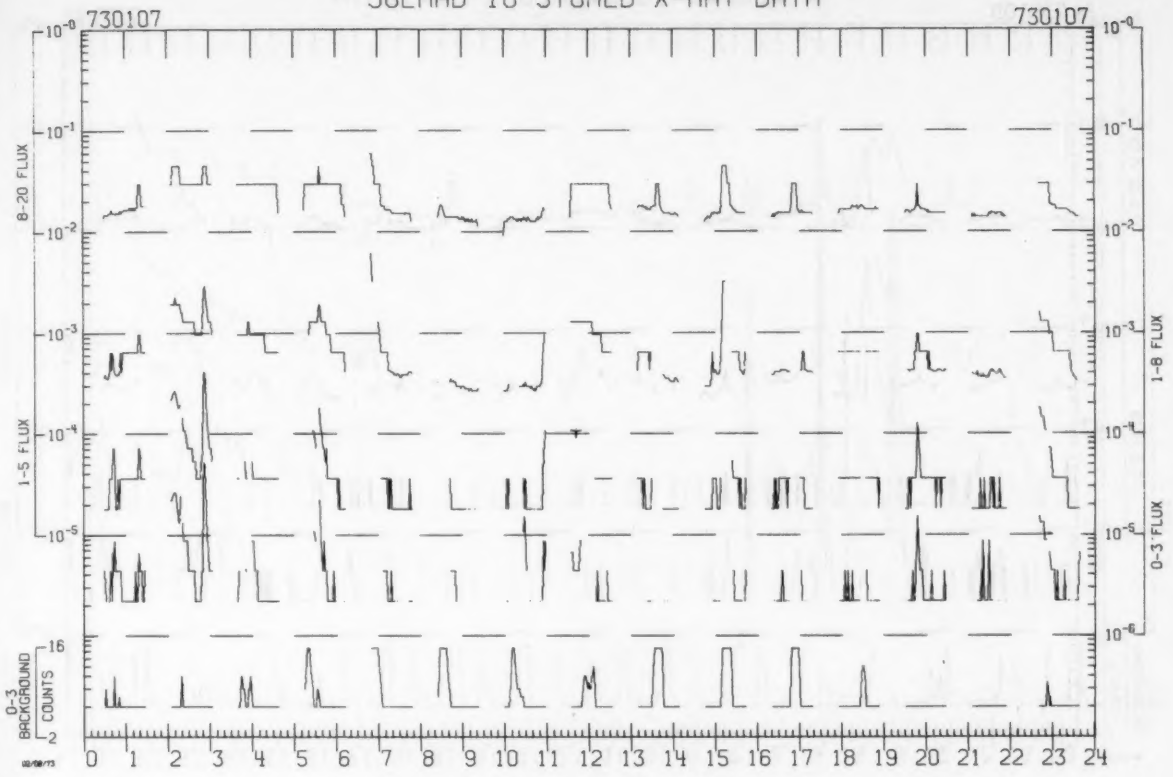


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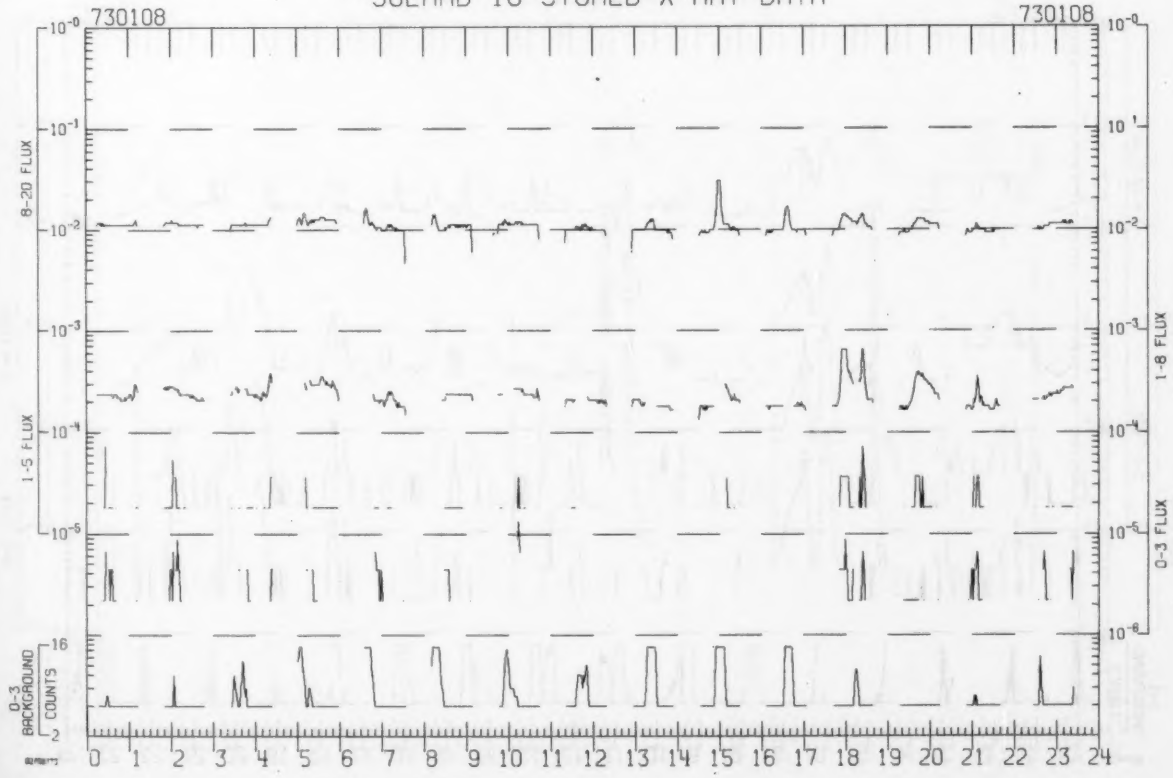

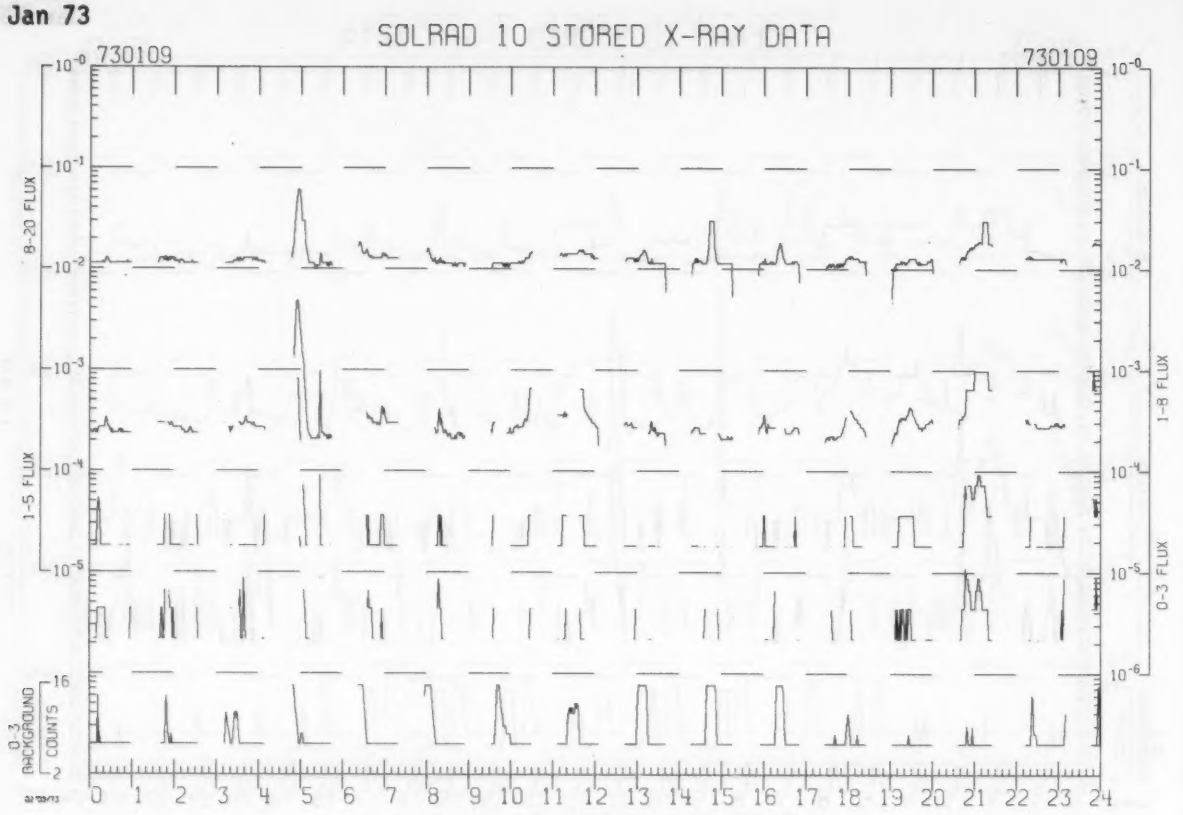
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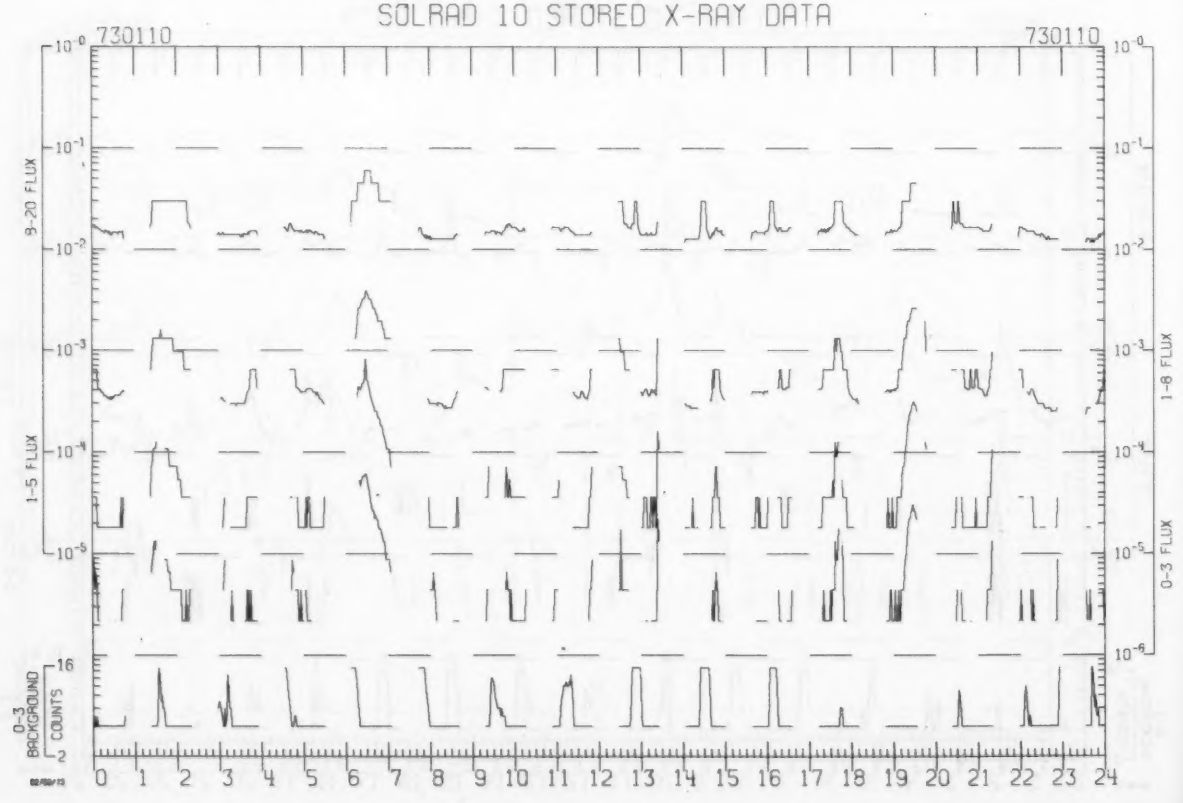
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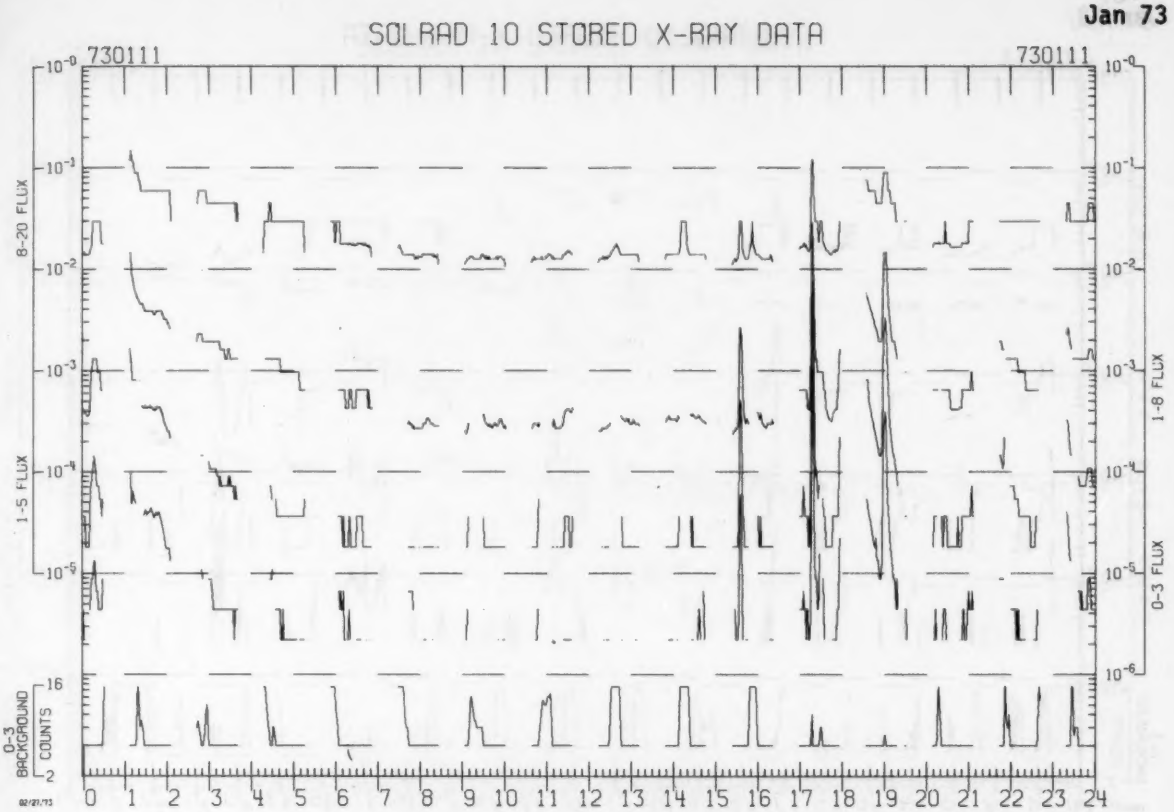
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1-8 FLUX
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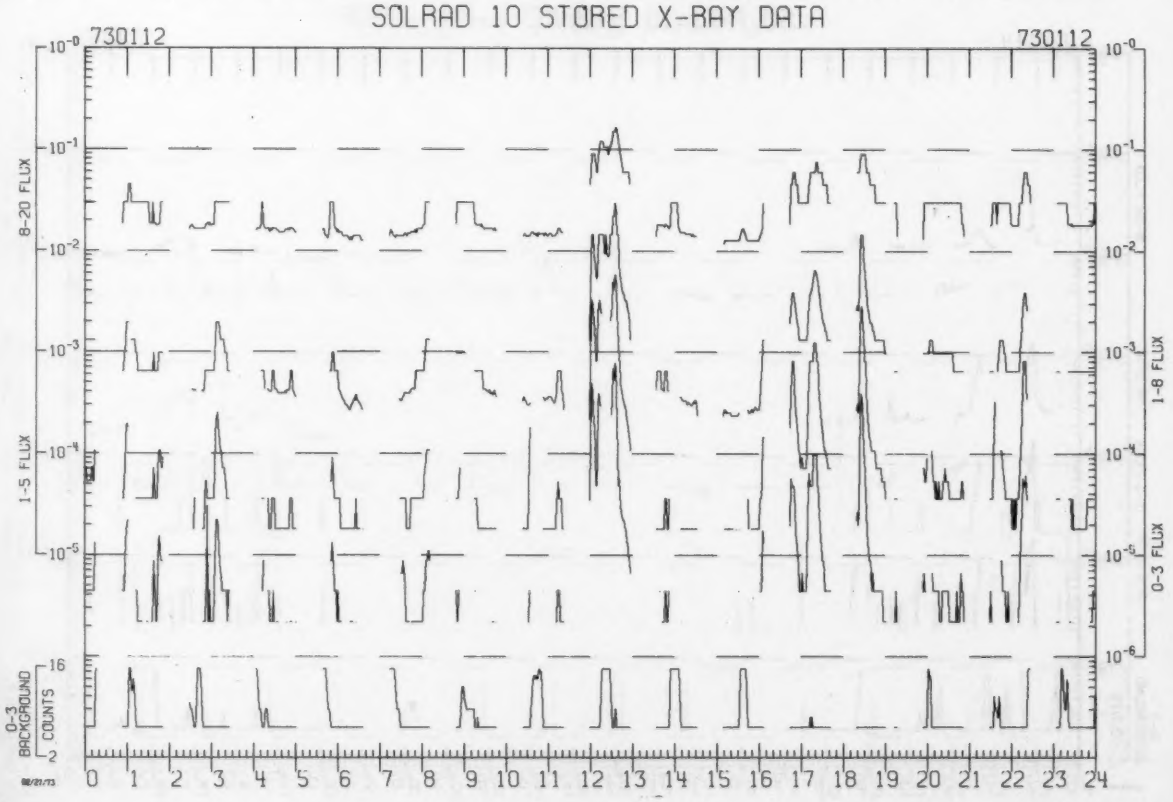
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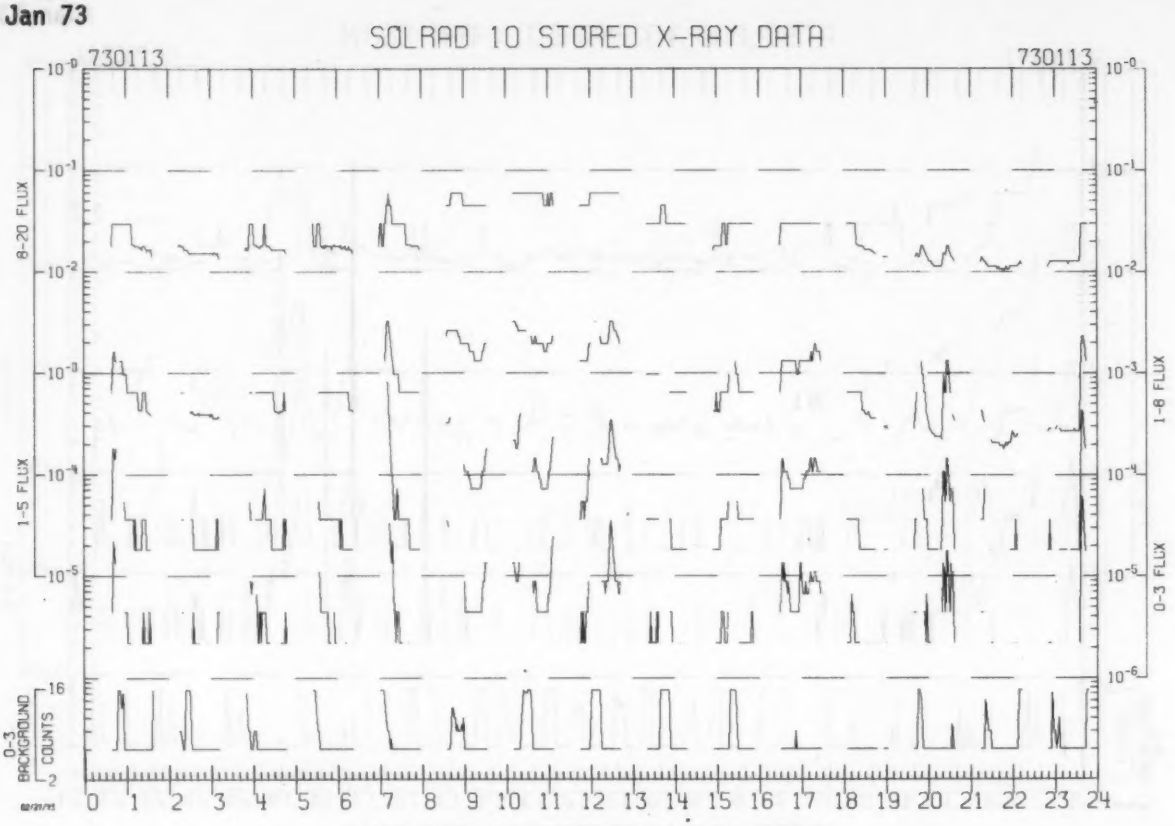
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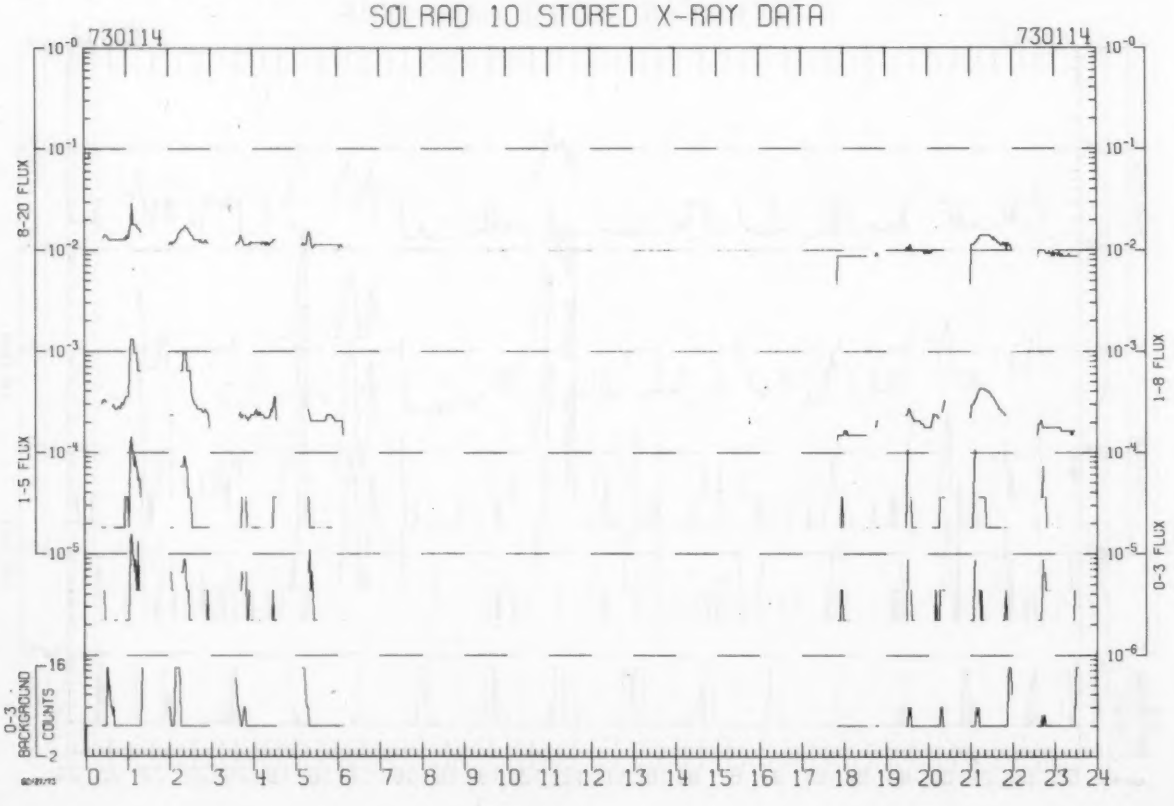
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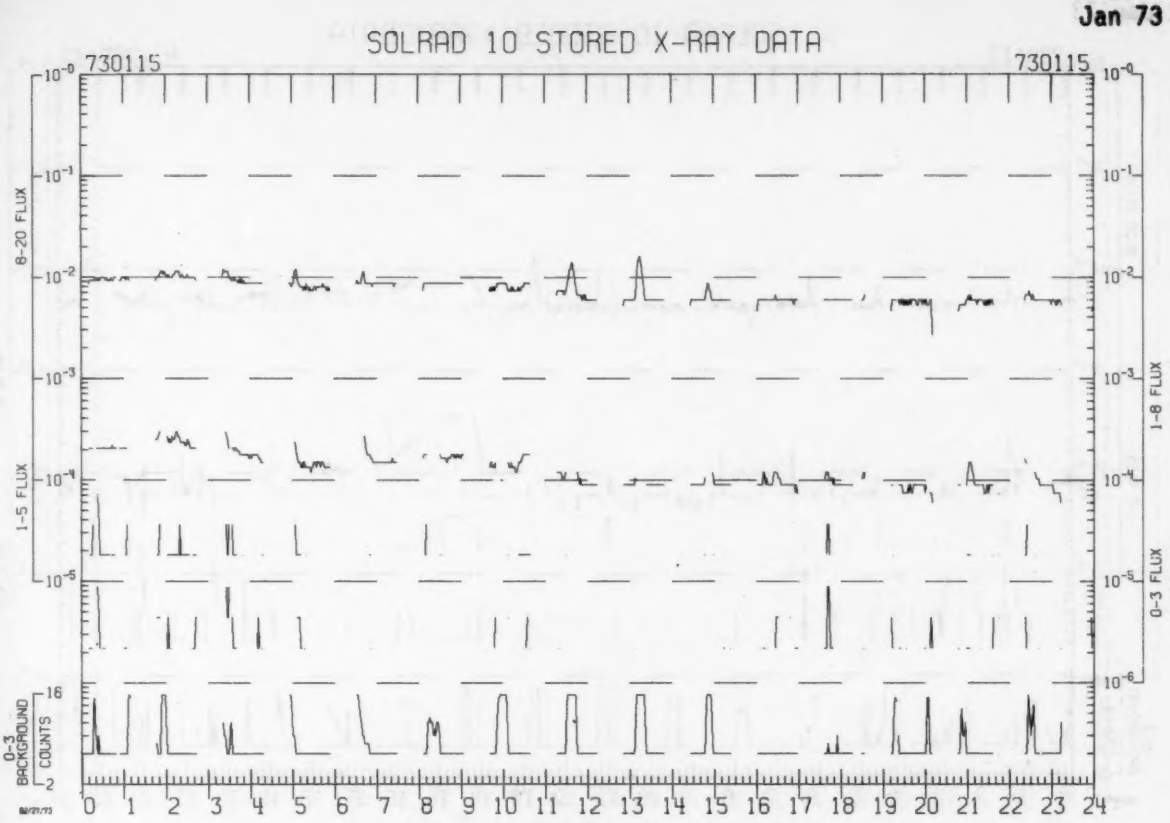
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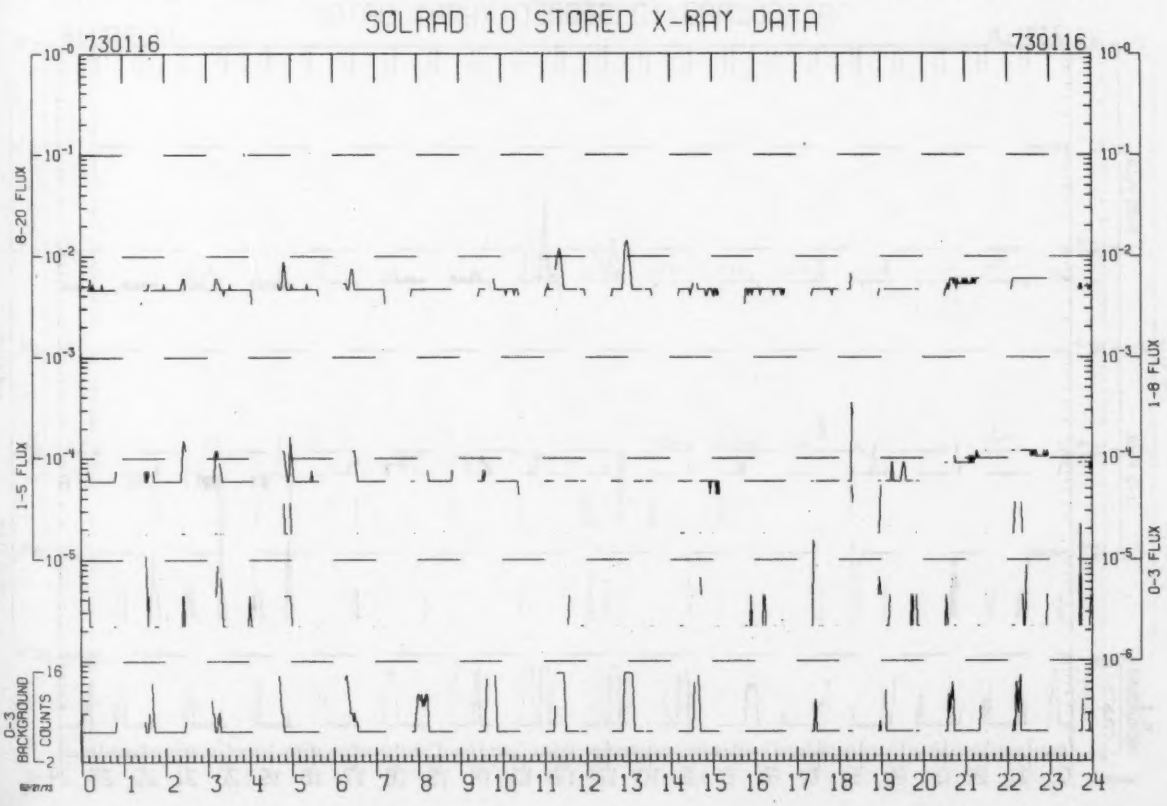
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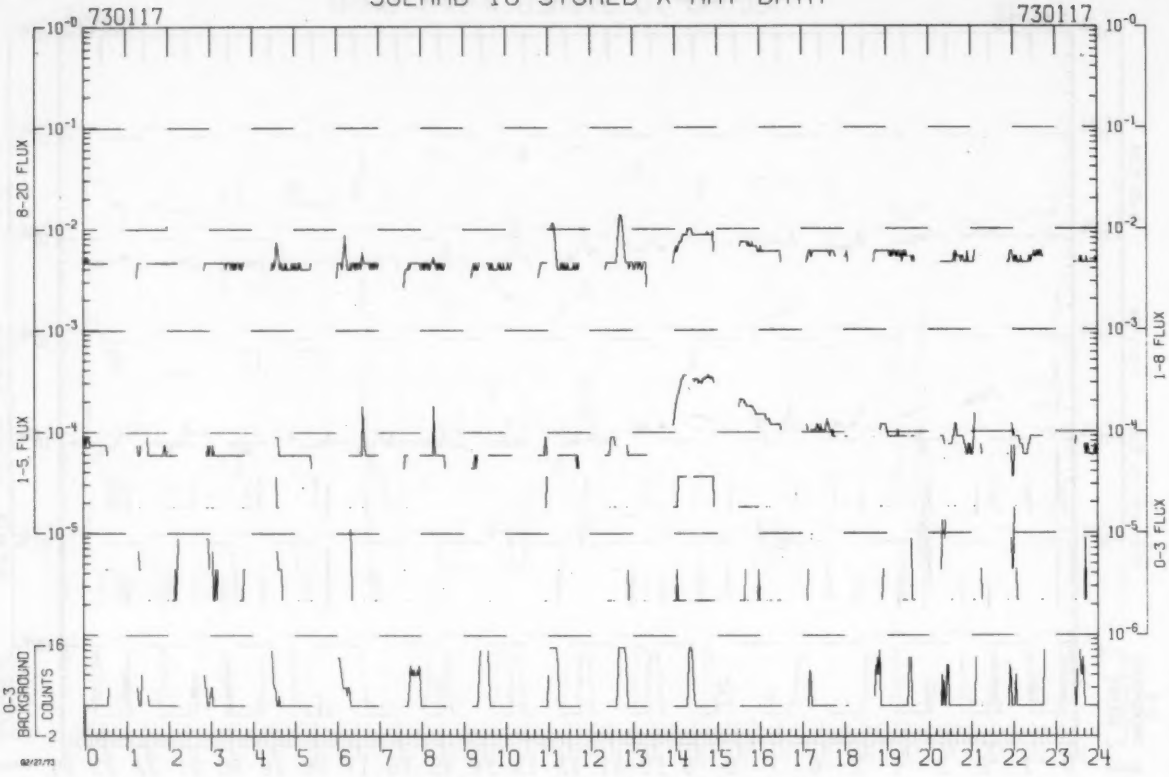


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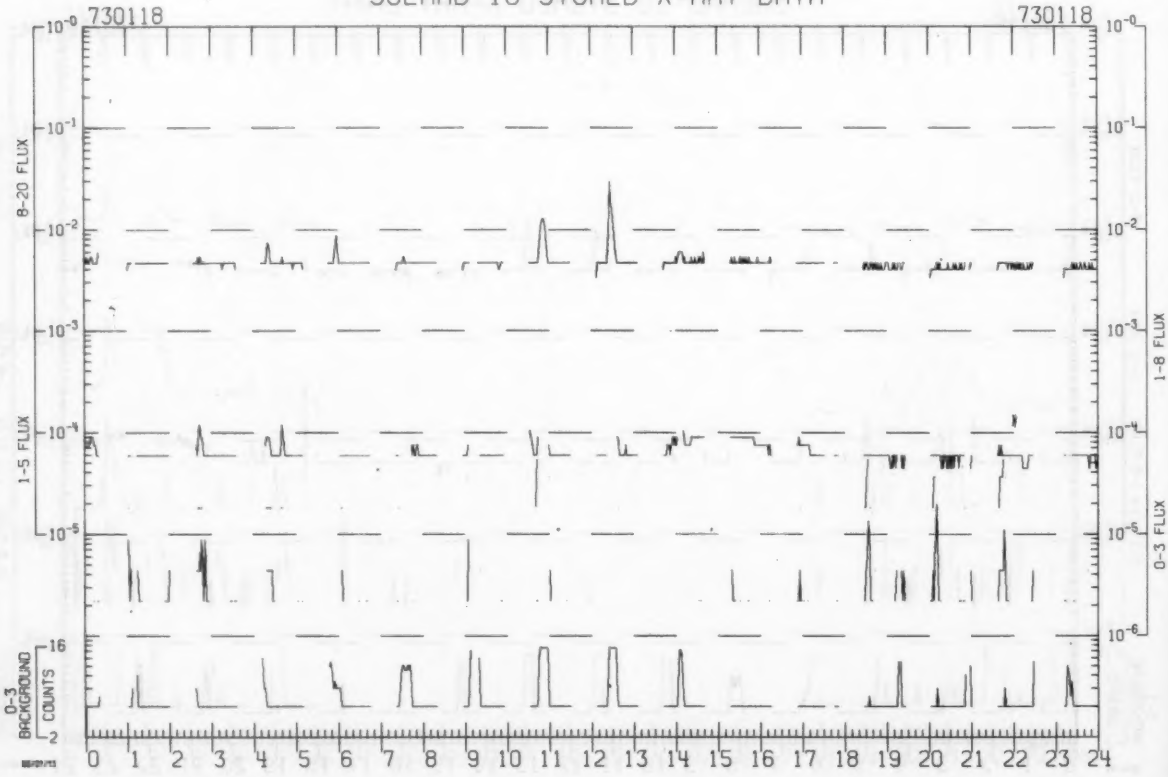

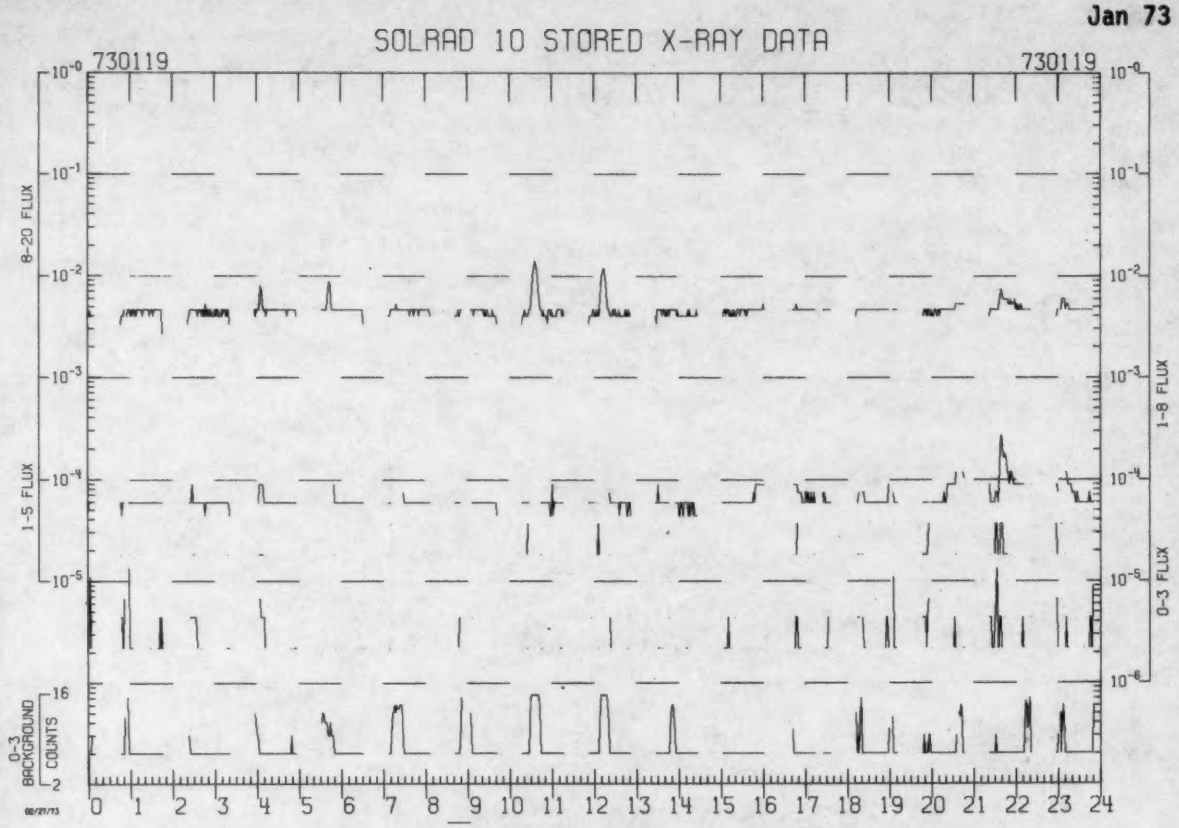
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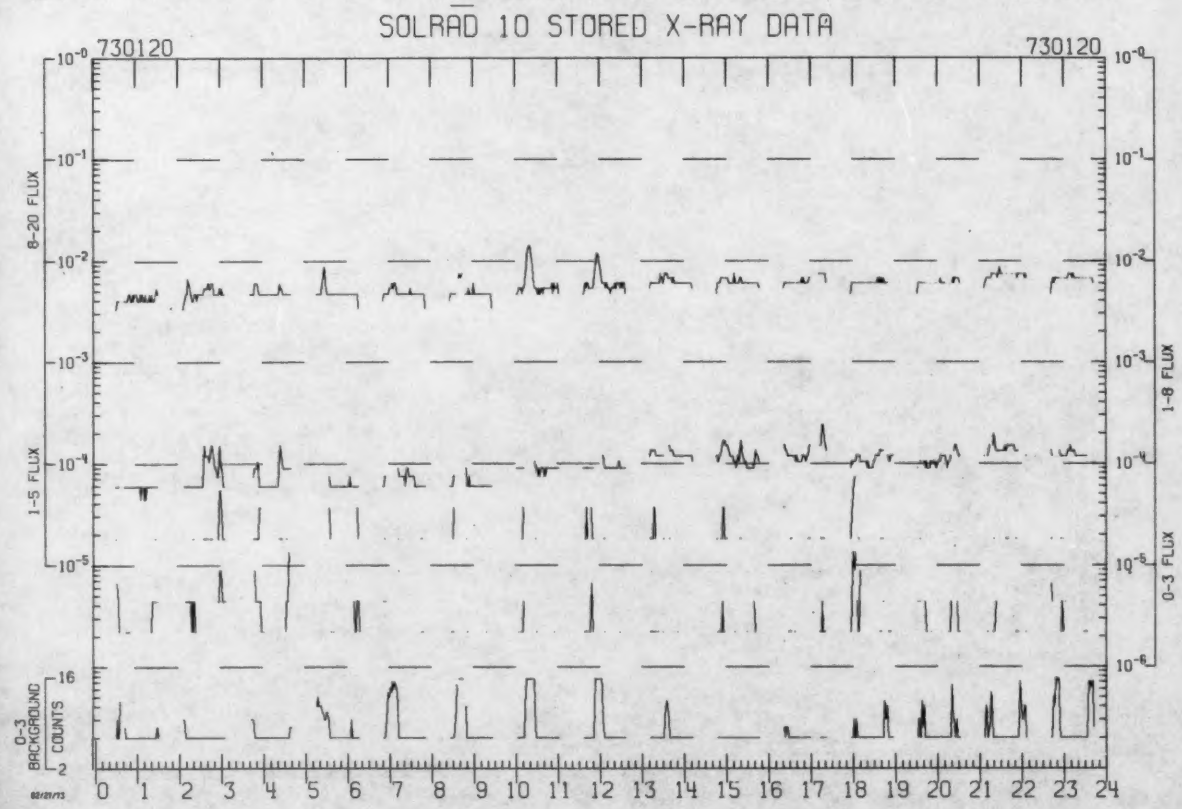
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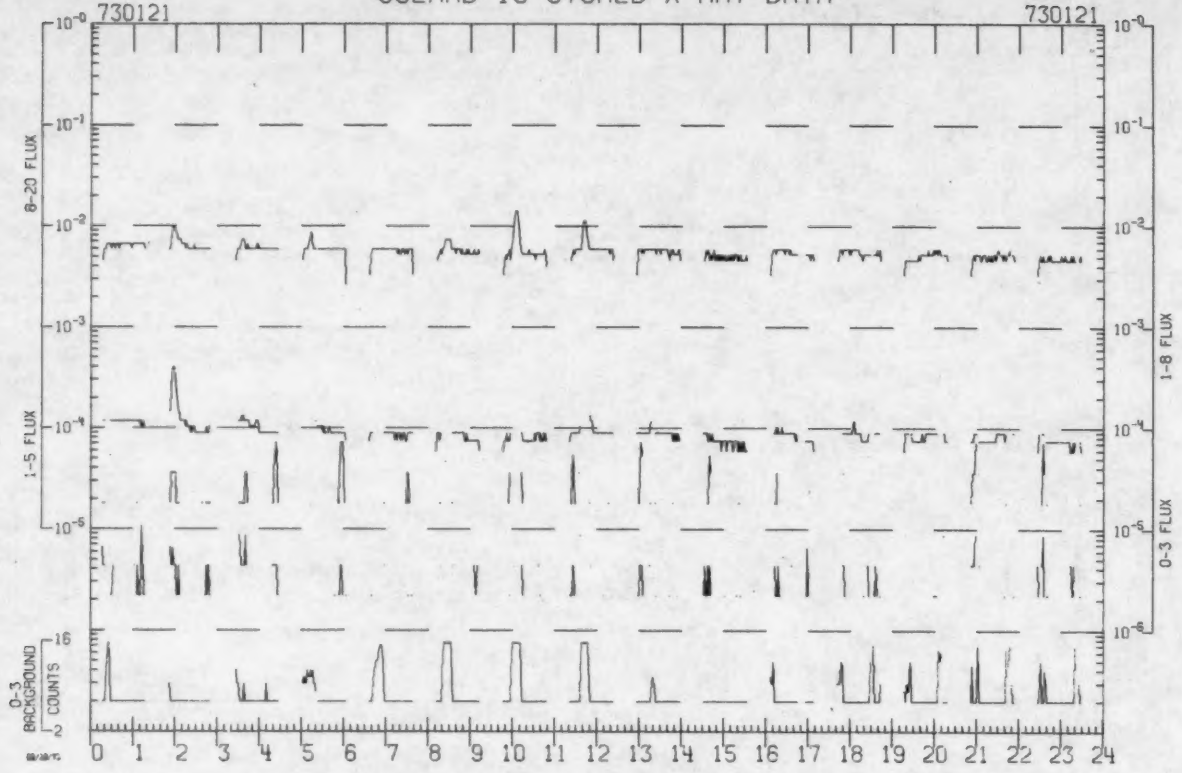


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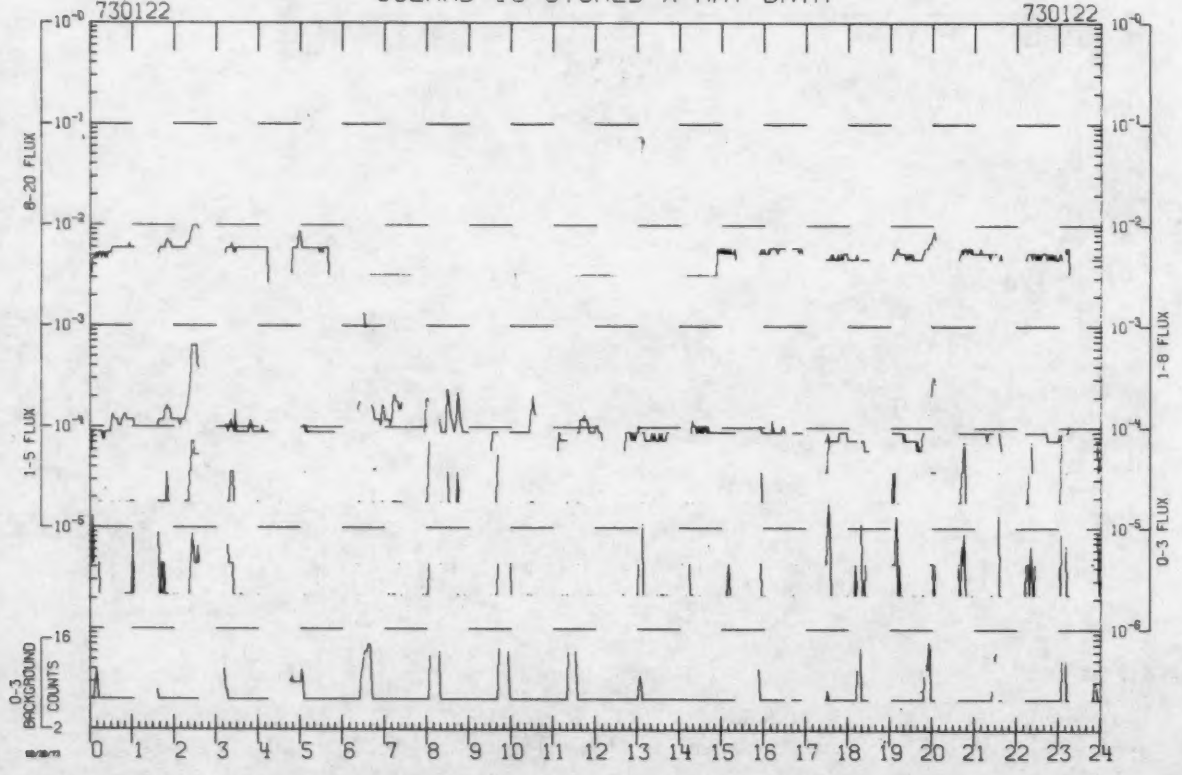

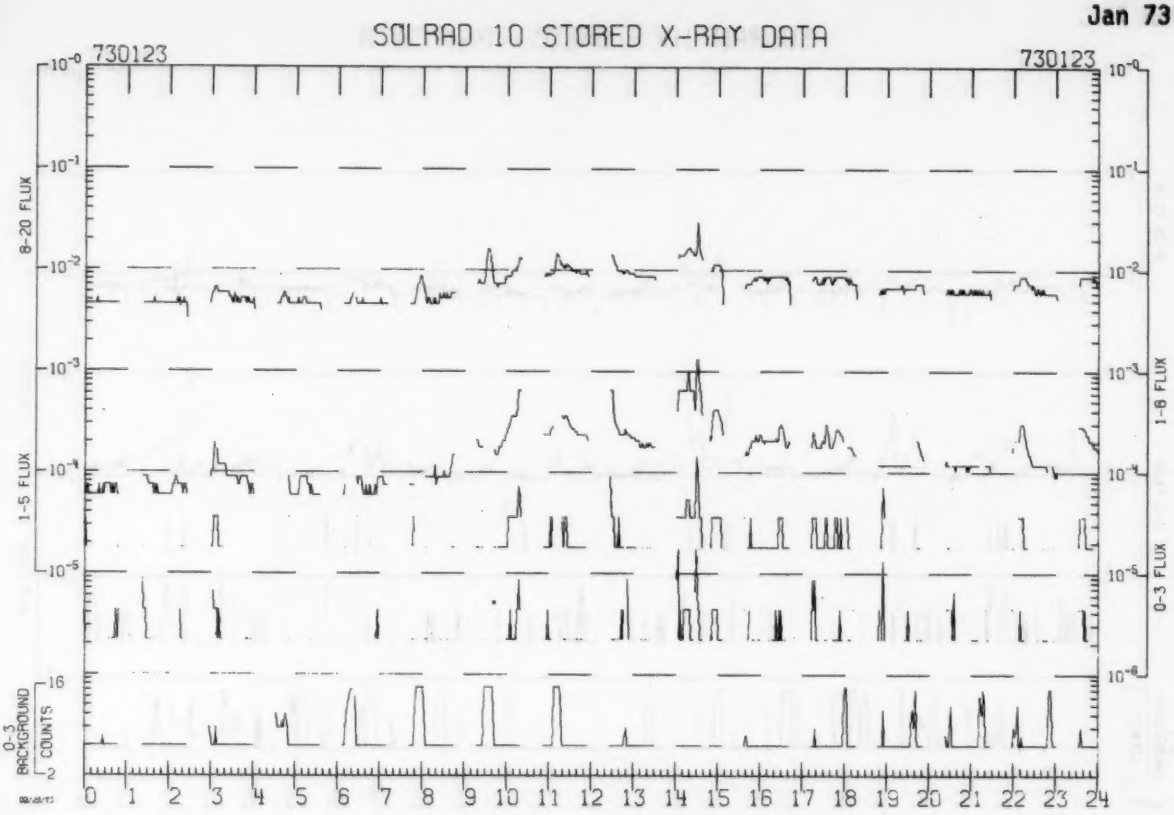
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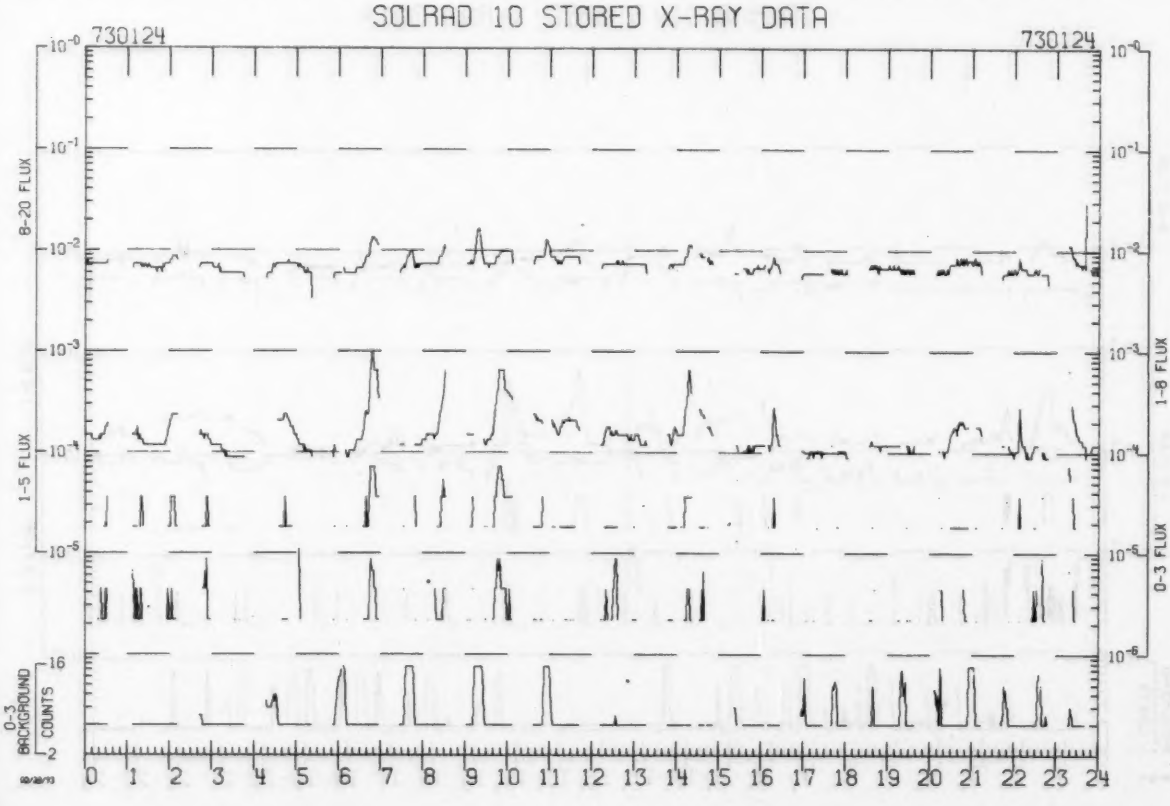
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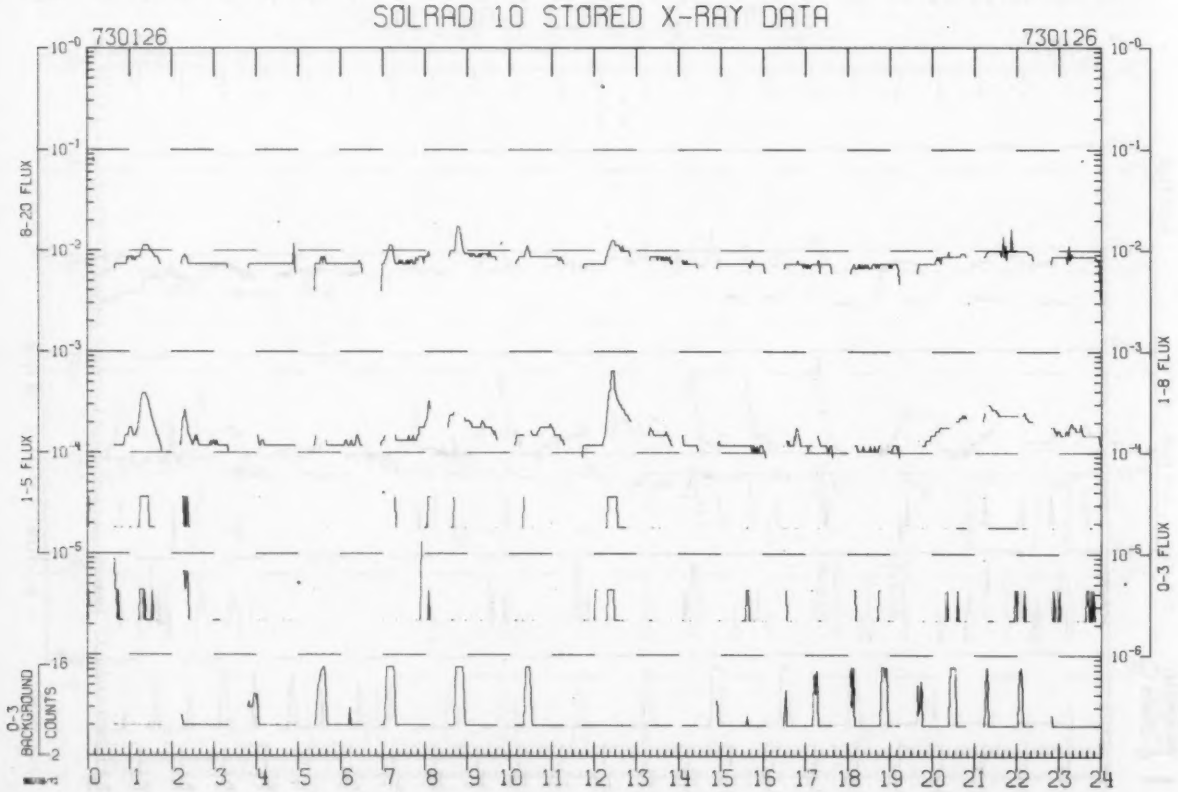
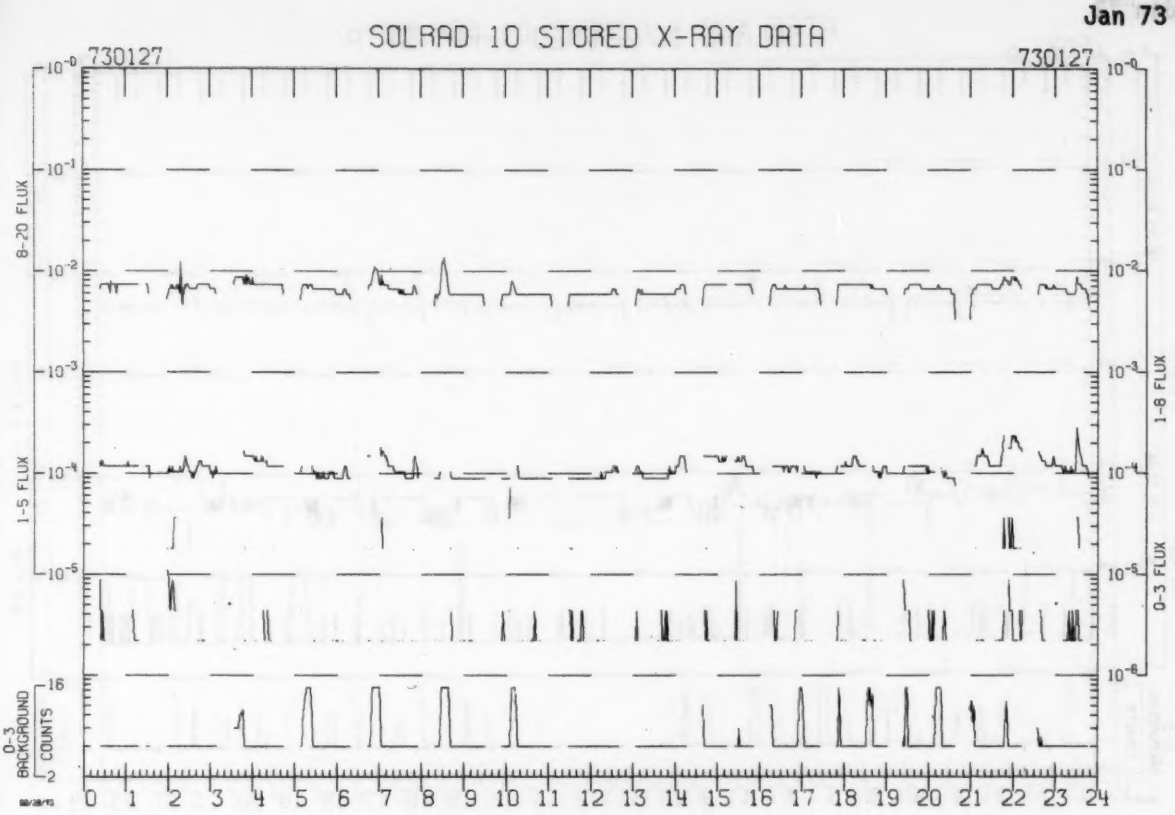
SOLRAD 10 STORED X-RAY DATA

SOLRAD 10 STORED X-RAY DATA

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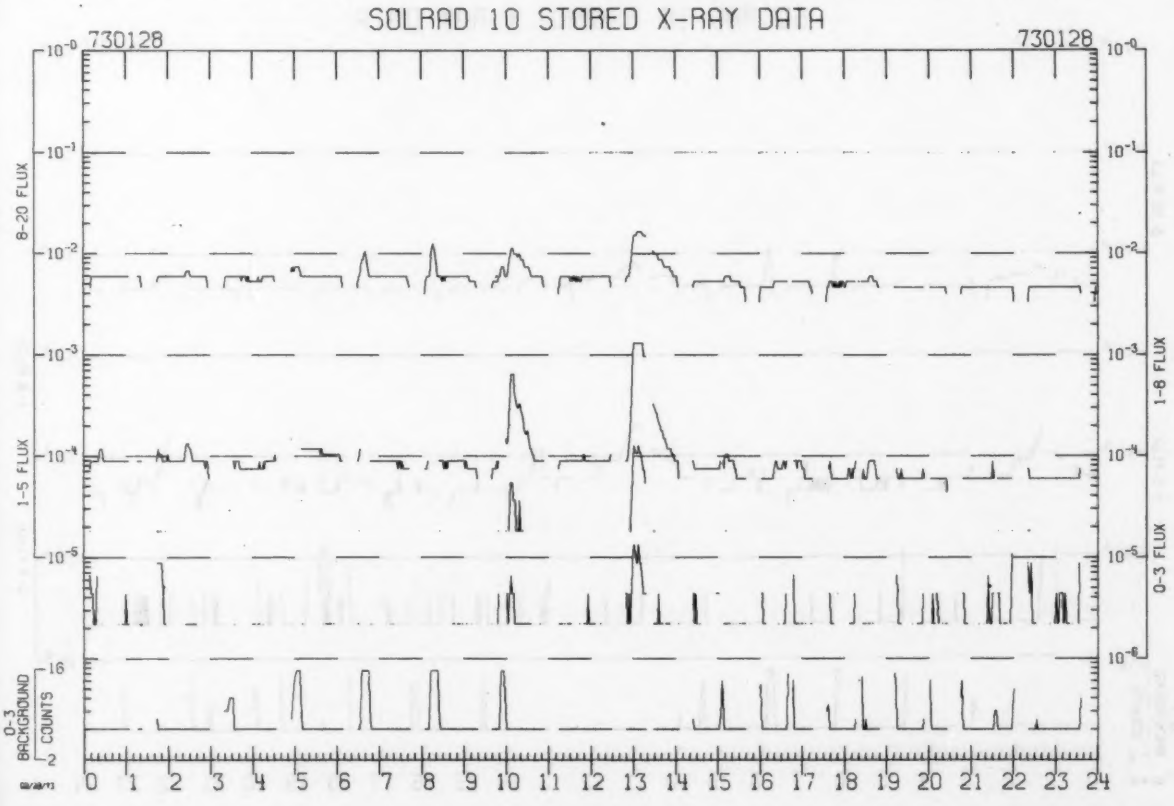
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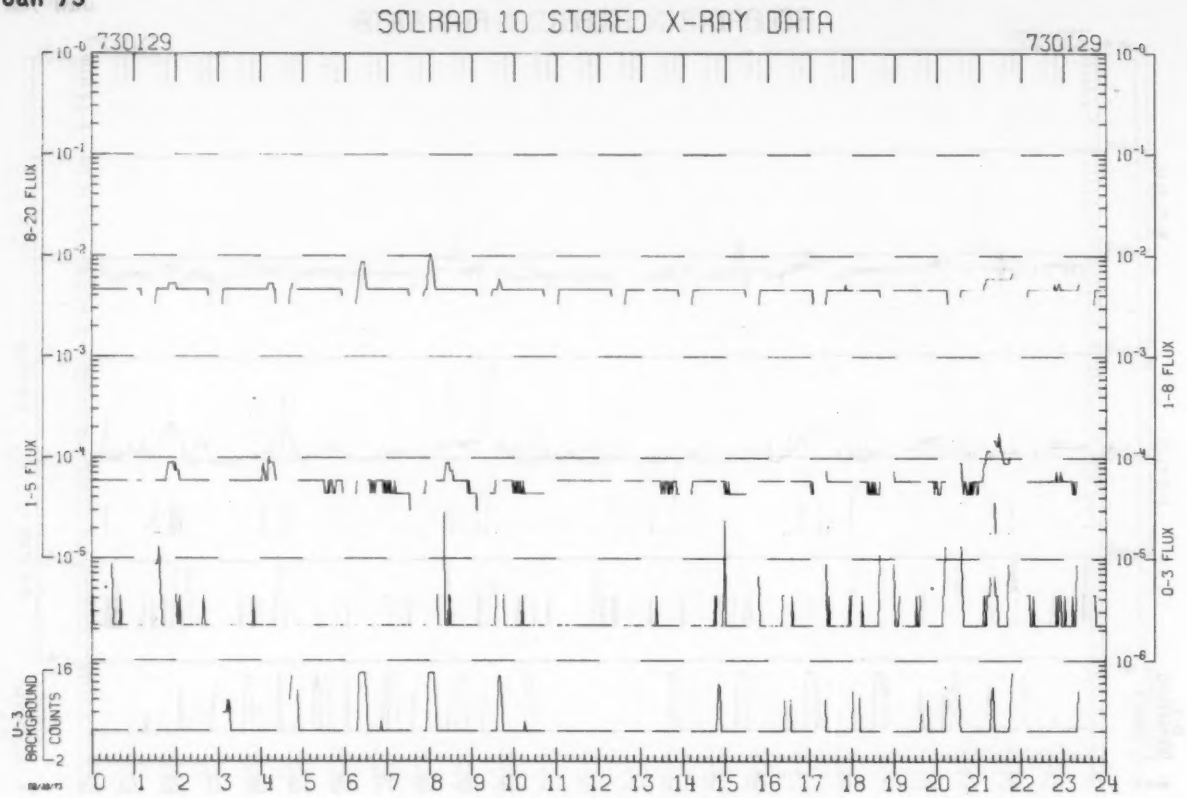
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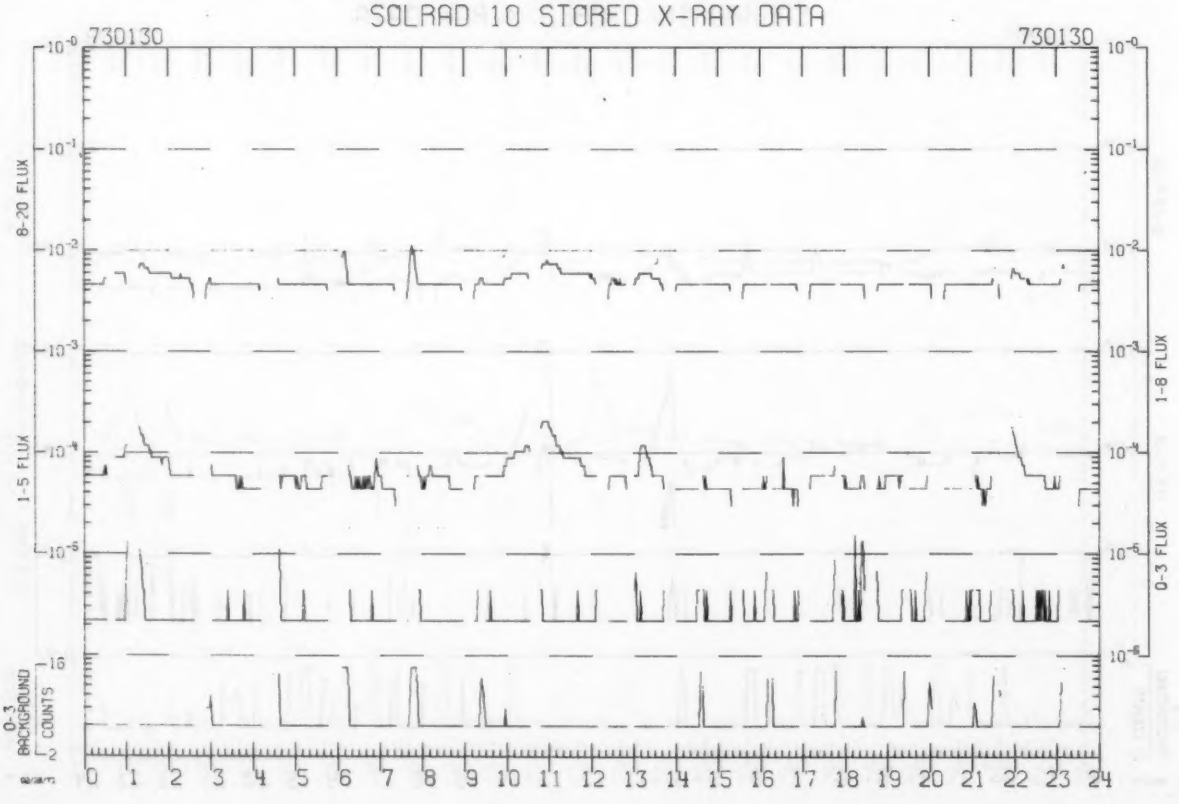
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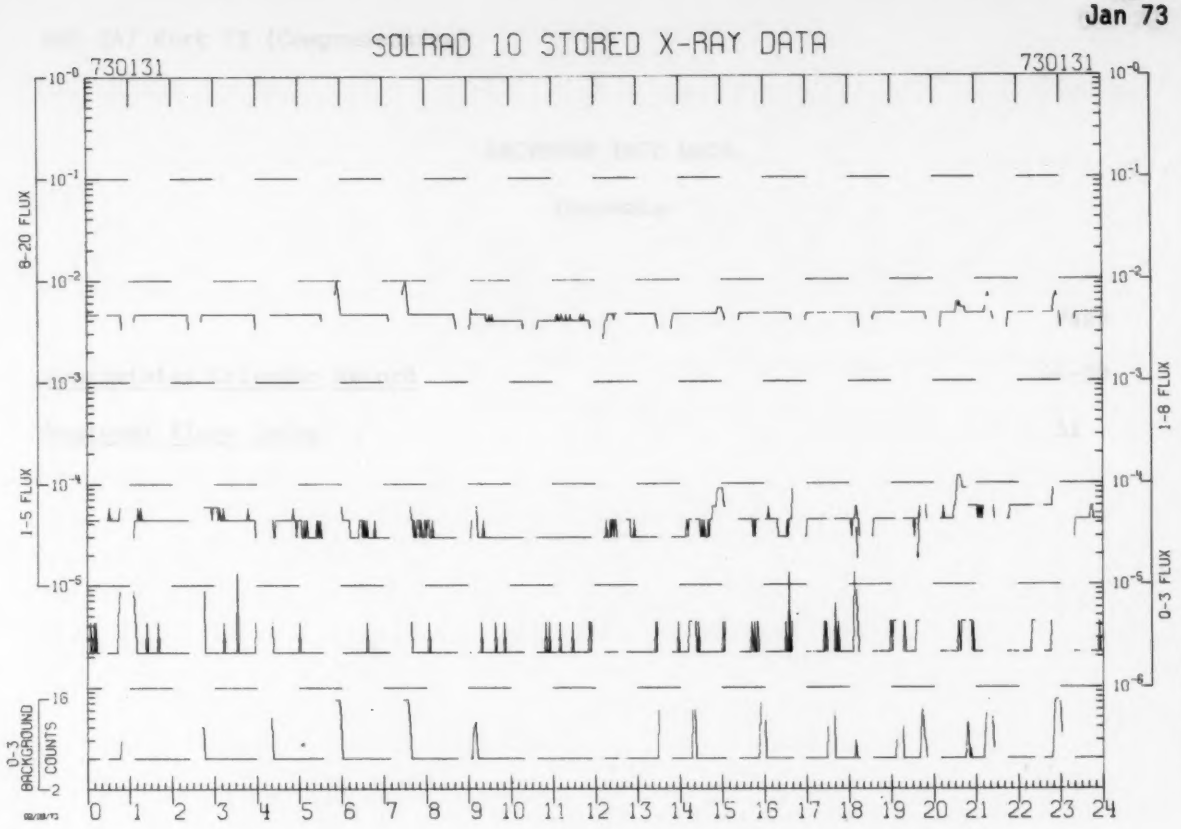
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# DECEMBER 1972 DATA

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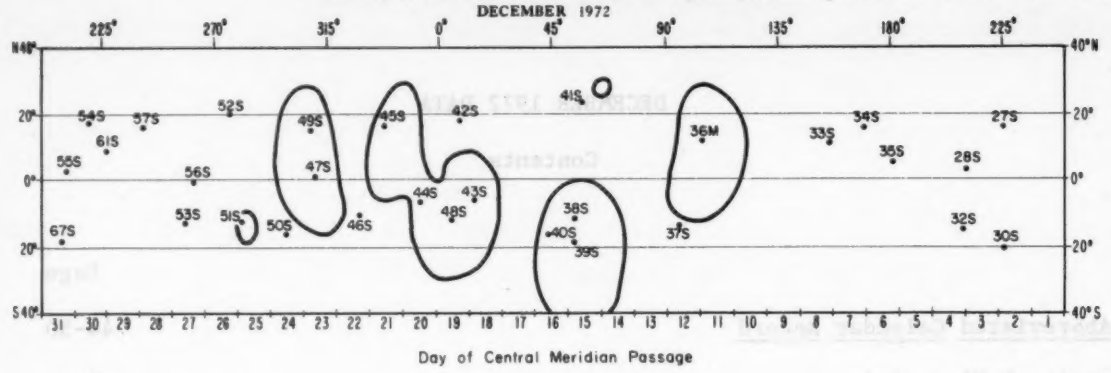
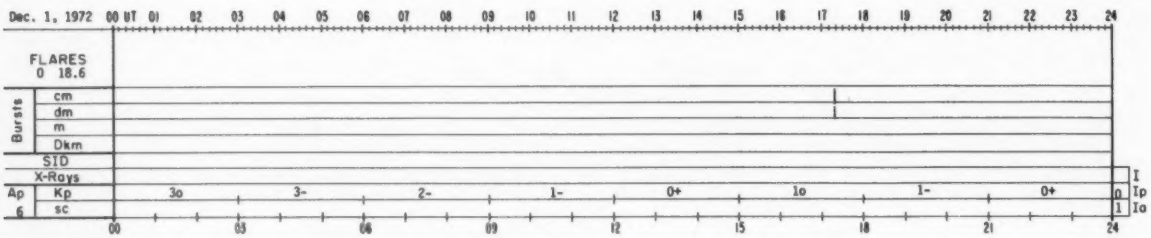
| Regional Flare Index | 51 |

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

# ABBREVIATED CALENDAR RECORD

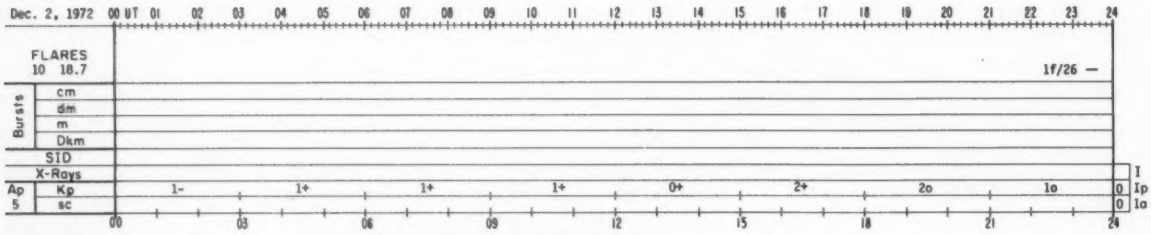



Day of Central Meridian Passage



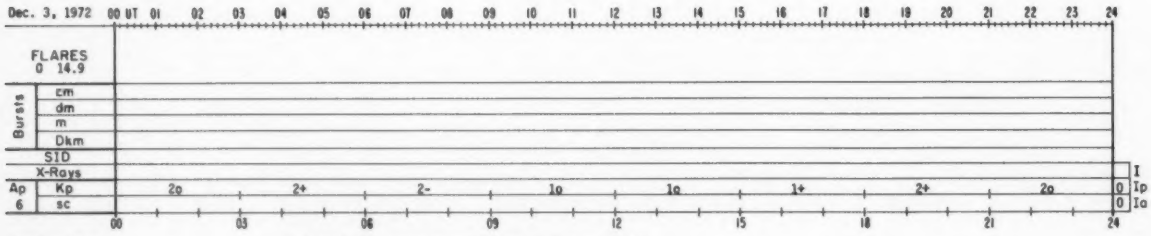

94 10 cm flux
40 Rz (Final)

No coronal data 7 days earlier on E. limb.



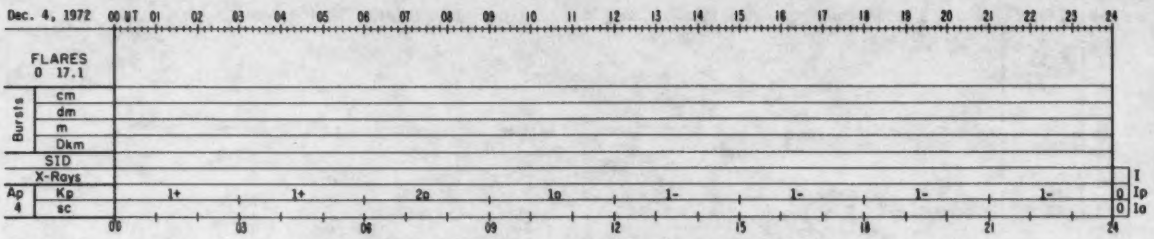

92 10 cm flux
31 Rz
CMP (12130) S20
12127 N18 (19055) N18 (Bf)2 CMP Dec. 3

No coronal data 7 days earlier on E. limb.



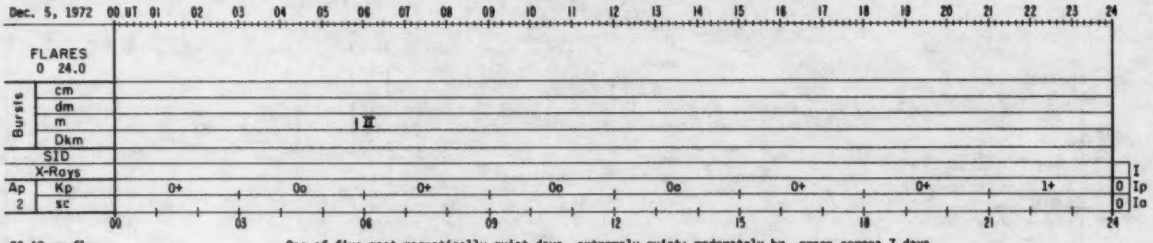

88 10 cm flux
28 Rz
CMP 12128 N04

Moderately br. green corona 7 days earlier on NE limb.



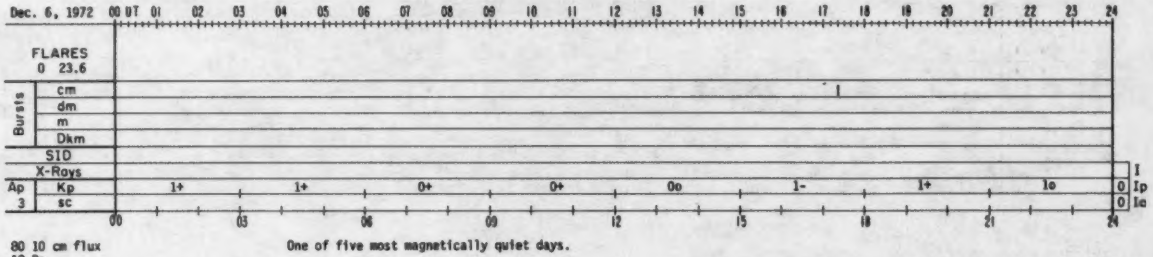

85 10 cm flux
24 Rz
CMP 12132 S14 19056 S16 (s)1

One of ten most magnetically quiet days; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.

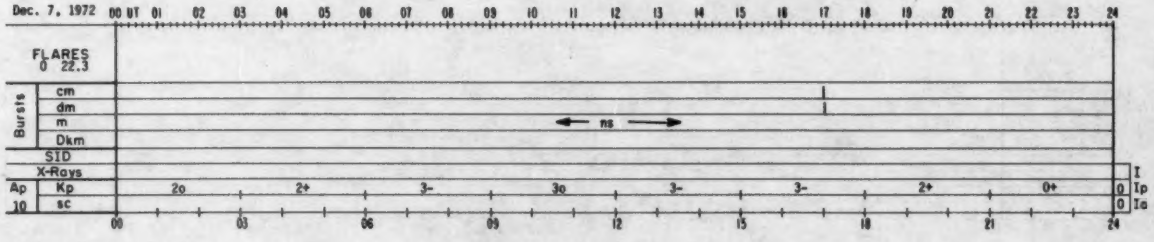


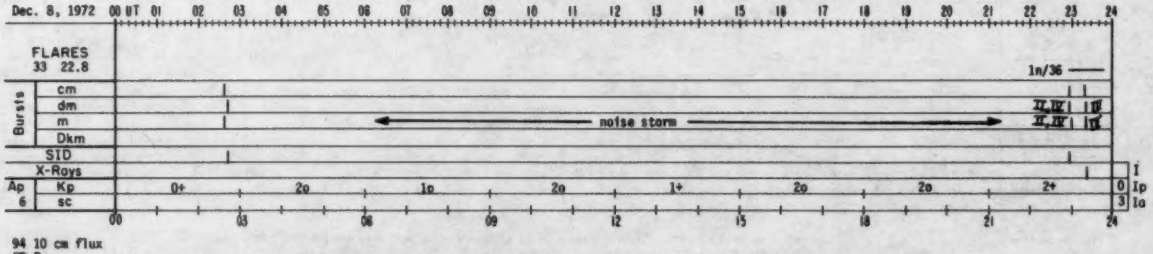

83 10 cm flux
21 Rz

One of five most magnetically quiet days, extremely quiet; moderately br. green corona 7 days earlier on E. limb.

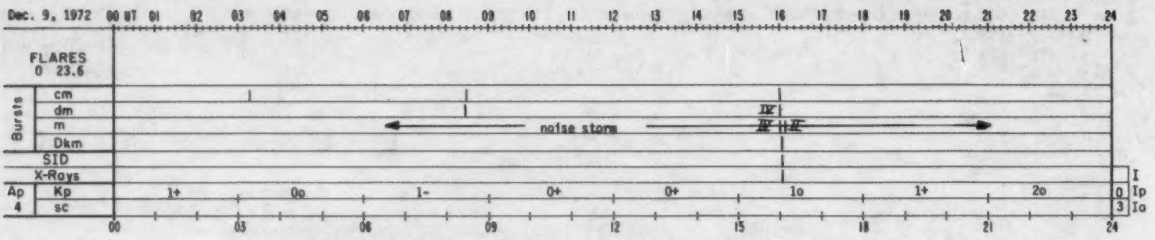



80 10 cm flux
18 Rz
CMP 12135 N06

One of five most magnetically quiet days.

90 10 cm flux
24 Rz
CMP (12134) N16

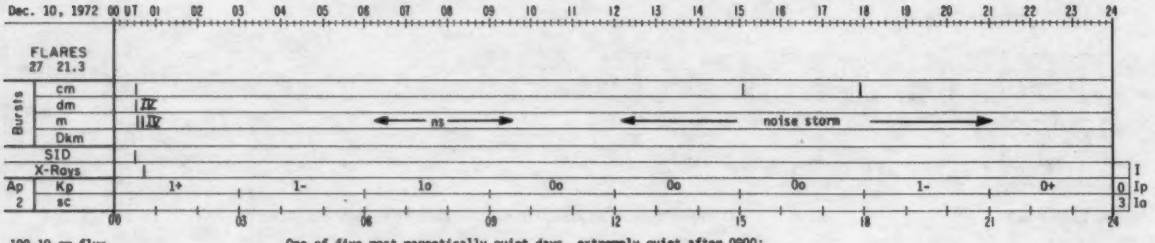



94 10 cm flux
29 Rz
CMP (12133) N11



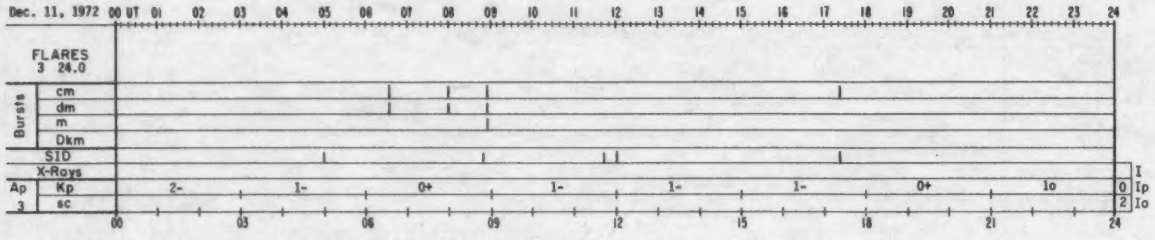

98 10 cm flux
42 Rz

One of ten most magnetically quiet days; moderately br. green corona 7 days later on NW limb.




100 10 cm flux
53 Rz

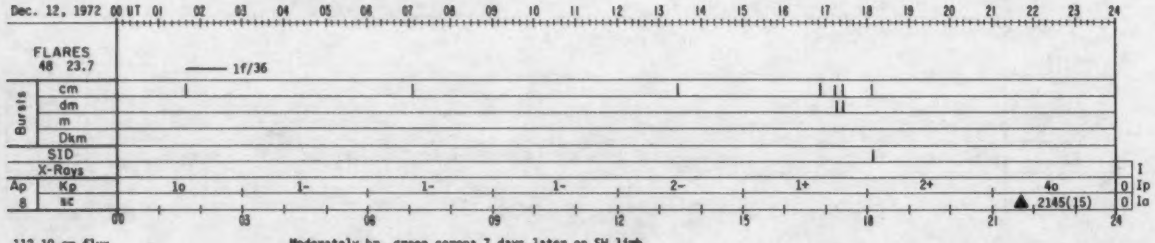
One of five most magnetically quiet days, extremely quiet after 0900;
no coronal data 7 days later on W. limb.




108 10 cm flux
61 Rz

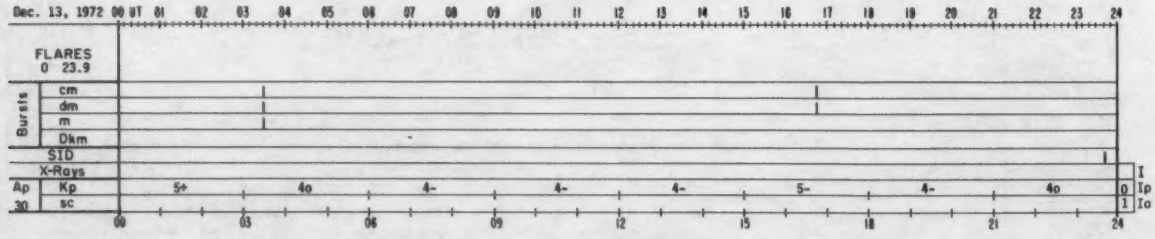
One of ten most magnetically quiet days.

CMP 12136 N12 19057 N10 (βp)5 CMP Dec. 12
19058 N11 (β)4

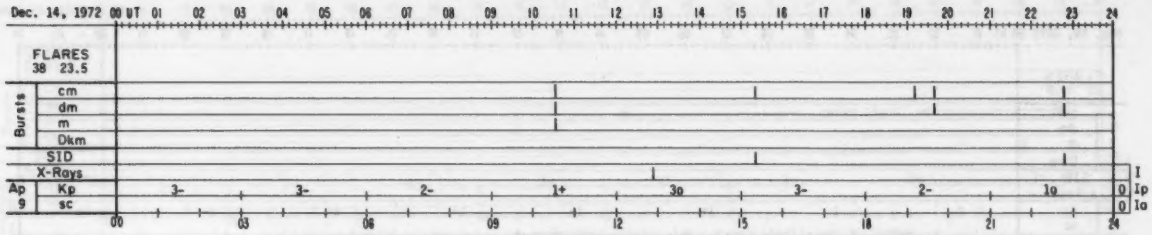



112 10 cm flux
64 Rz

Moderately br. green corona 7 days later on SW limb.

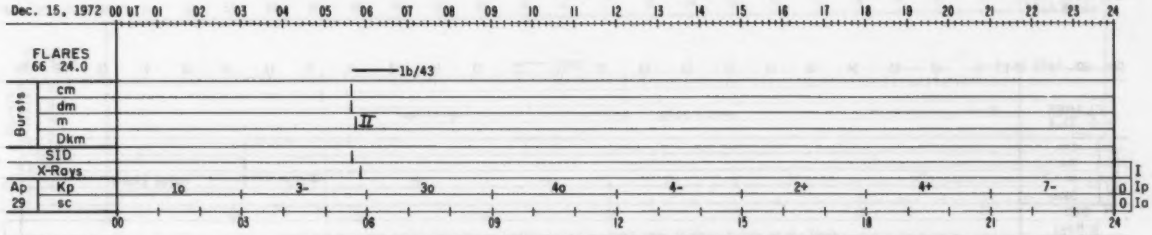
CMP 12137 S14 19059 S19 (βp)2
(19060) S11 (βp)2

115 10 cm flux
67 Rz

One of five most magnetically disturbed days, with moderate activity continuing after the sc on the previous day; aurora overhead over USSR at $\phi$ = 56° 1700-1800, $\phi$ = 57° 1800-2100, $\phi$ = 61° 1100, 1200 and 1300-1700; no coronal data 7 days earlier on E. limb.



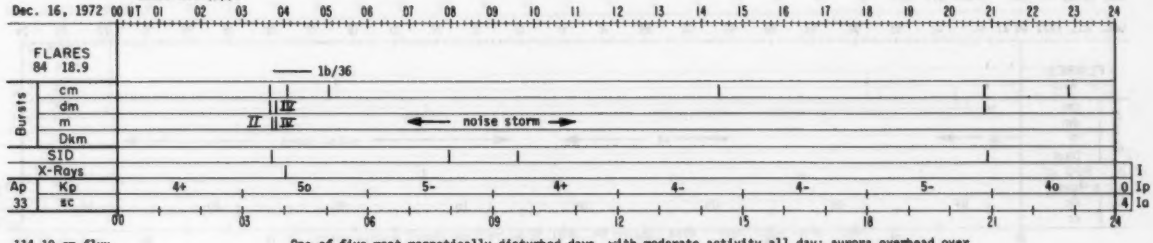

118 10 cm flux
69 Rz

Aurora overhead over USSR at $\phi$ = 57° 2000-2100, aurora visible over W. Europe to $\phi$ = 59° 0145; moderately br. green corona 7 days earlier on SE limb and 7 days later on SW limb.



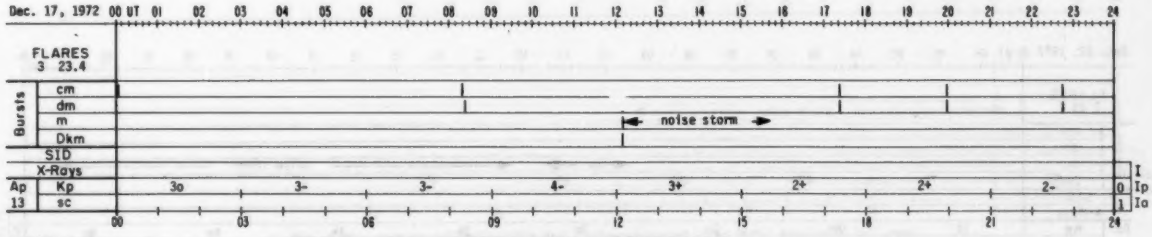

120 10 cm flux
71 Rz
CMP 12141 N23 19062 N21 (βp)3
12138 S11 19063 S10 (αp)2
19064 S12 (αp)2
12139 S18 19061 S20 (βp)5
19066 S15 (βp)1

One of five most magnetically disturbed days, with slight-to-moderate activity becoming moderately severe storm near 2100; aurora overhead over USSR at $\phi$ = 59° 2000-2200, $\phi$ = 60° 0300, 0500 and 1300-1400 and $\phi$ = 61° 1500; active auroral display over W. Europe visible to $\phi$ = 58° 2045-2245, but much concealed by cloud; moderately br. green corona 7 days later on SW limb.



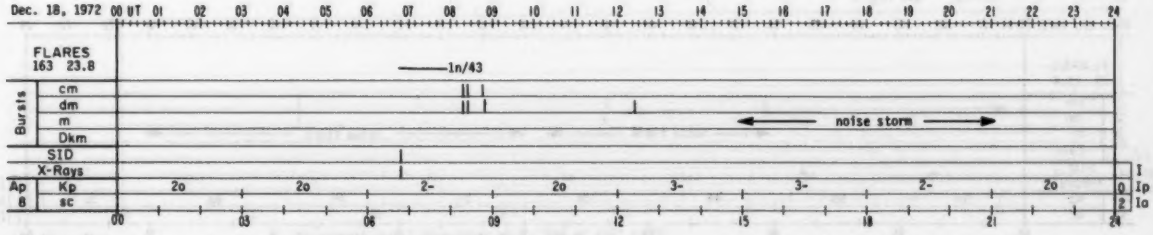

114 10 cm flux
66 Rz
CMP 12140 S16 (3)

One of five most magnetically disturbed days, with moderate activity all day; aurora overhead over USSR at $\phi$ = 57° 1900-2200; moderately br. green corona 7 days earlier on SE limb and 7 days later on SW limb.



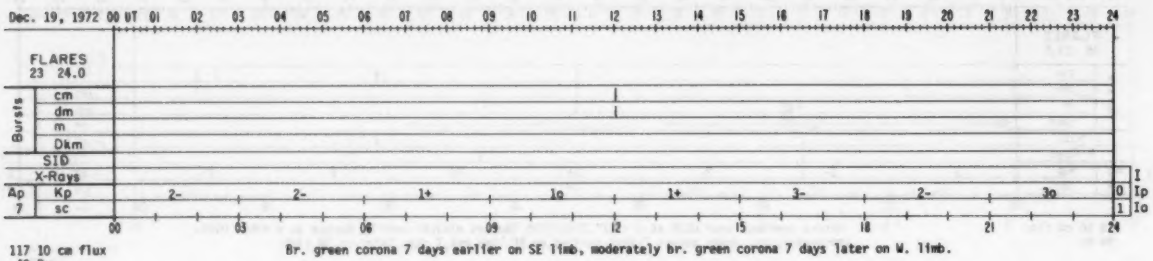

116 10 cm flux
71 Rz

Moderately br. green corona 7 days earlier on SE limb.



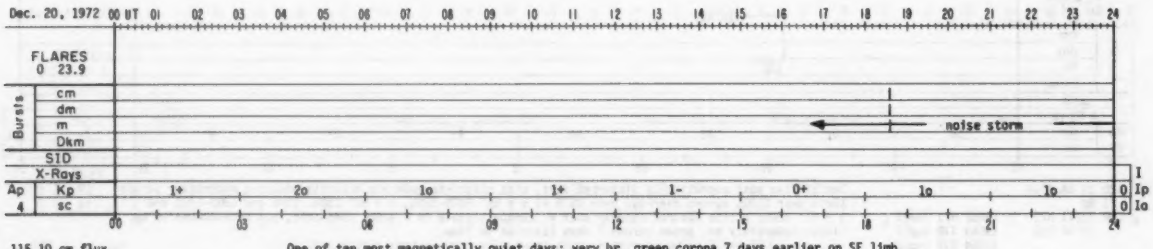

116 10 cm flux
58 Rz
CMP 12143 S06 19065 S07 Bf

No coronal data 7 days earlier on E. limb.



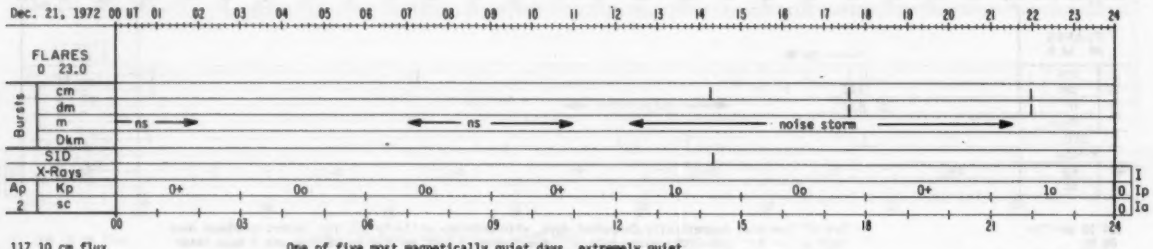

117 10 cm flux
49 Rz
CMP 12142 N18
12148 S12

Br. green corona 7 days earlier on SE limb, moderately br. green corona 7 days later on W. limb.



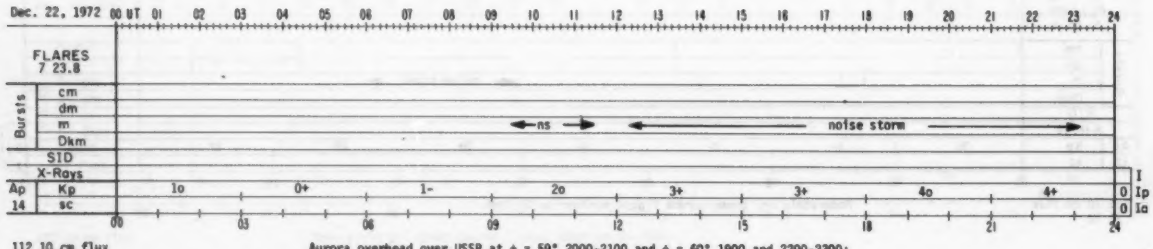

115 10 cm flux
54 Rz
CMP 12144 S07 (2) 19067 S10 (β)3

One of ten most magnetically quiet days; very br. green corona 7 days earlier on SE limb and 7 days later on SW limb, moderately br. green corona 7 days later on NW limb.



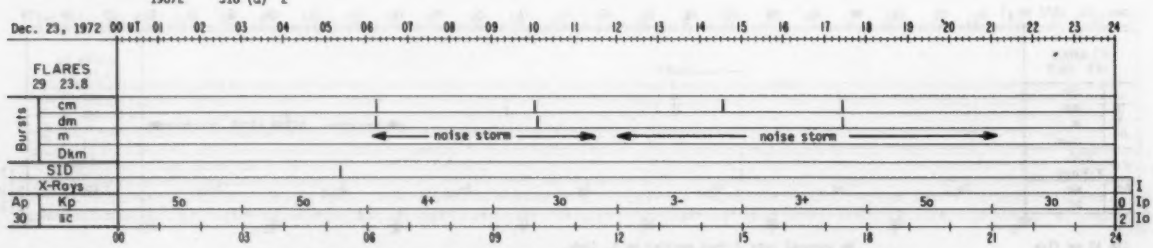

117 10 cm flux
67 Rz
CMP 12145 N16 (2) 19068 N17 (β)5

One of five most magnetically quiet days, extremely quiet.



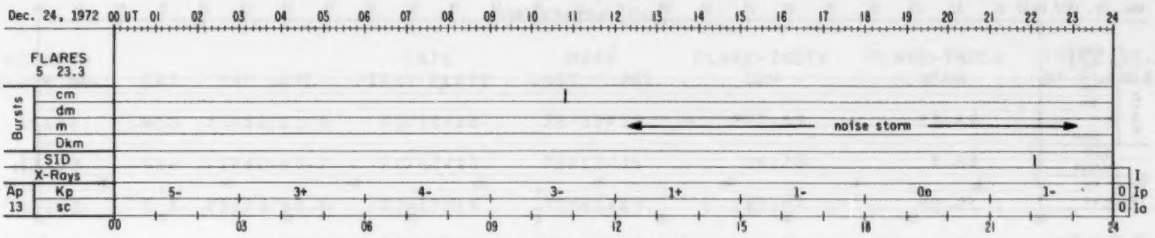

112 10 cm flux
59 Rz
CMP 12146 S10 (4) 19070, 74 S11 (βp 3
19072 S18 (α) 2

Aurora overhead over USSR at $\phi$ = 59° 2000-2100 and $\phi$ = 60° 1900 and 2200-2300; moderately br. green corona 7 days earlier on SE limb.



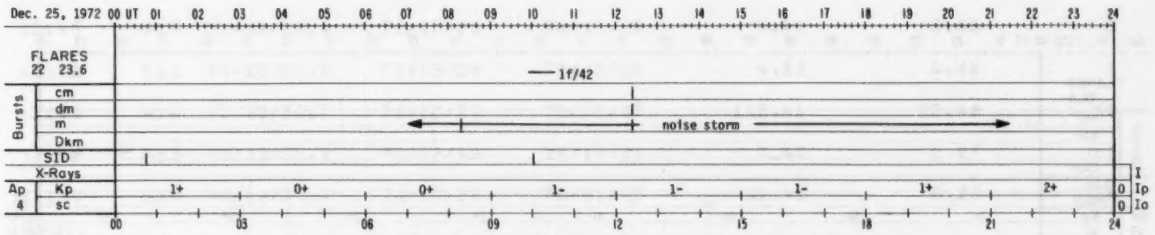

110 10 cm flux
57 Rz
CMP 12147 N01
12149 N15 19069 N11 (βp)5
(19073) N16 αp

One of five most magnetically disturbed days with activity varying from moderate to slight; aurora overhead over USSR at $\phi$ = 61° 1500 and 1700-1900, auroral glow and rays over W. Europe visible to $\phi$ = 58° 1850-0050; very br. green corona 7 days earlier on SE limb, moderately br. green corona 7 days earlier on NE limb, no coronal data 7 days later on W. limb.



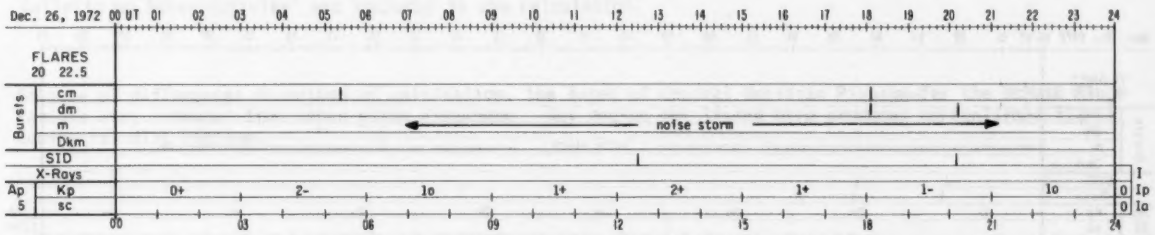

105 10 cm flux
48 Rz
CMP 12150 S18 (4) S17

Aurora overhead over USSR at $\phi$ = 61° 2200-2300, auroral glow and rays visible over W. Europe to $\phi$ = 58° 0000-0050; no coronal data 7 days earlier on E. limb.



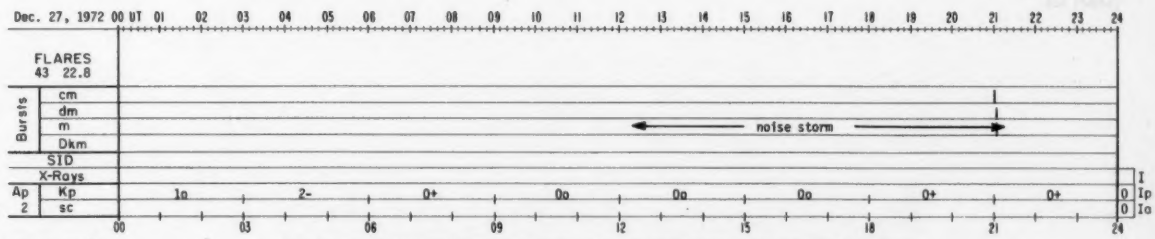

107 10 cm flux
43 Rz
CMP 12151 S12 (2) (19075) S12 (ap)2

One of ten most magnetically quiet days; no coronal data 7 days later on W. limb.



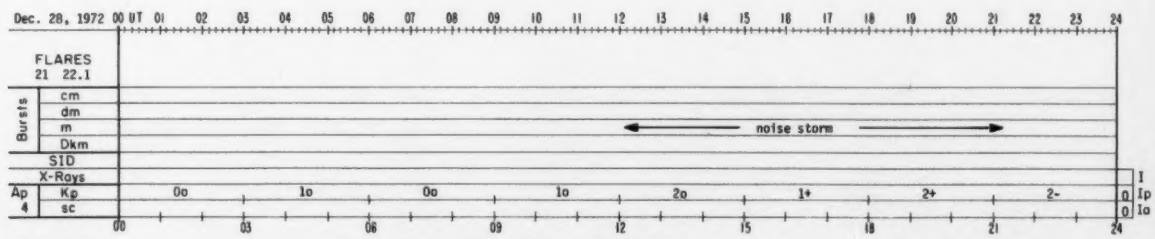

101 10 cm flux
39 Rz
CMP 12152 N20 (19071) N19 (8)4

Br. green corona 7 days earlier on SE limb, no coronal data 7 days later on W. limb.



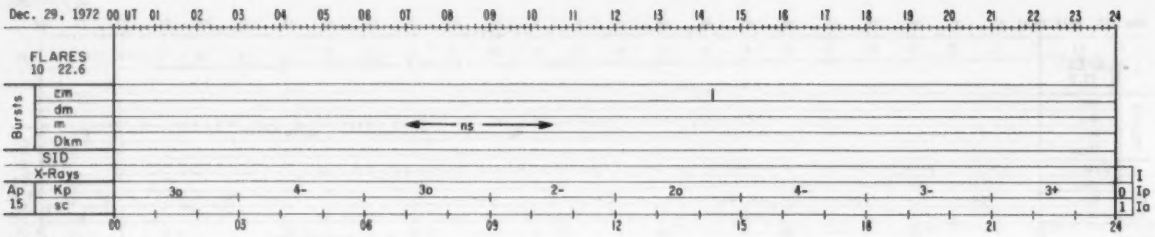

101 10 cm flux
34 Rz
CMp (12156) S01
12153 S13 (2) (19076) S15 α

One of five most magnetically quiet days, extremely quiet after 0600; moderately br. green corona 7 days later on NW and SW limb.

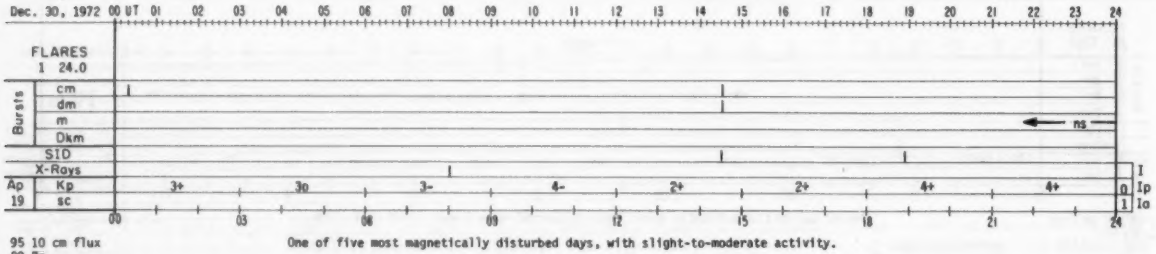



95 10 cm flux
26 Rz
CMP (12157) N16

No coronal data 7 days later on W. limb at 255° - 270°.

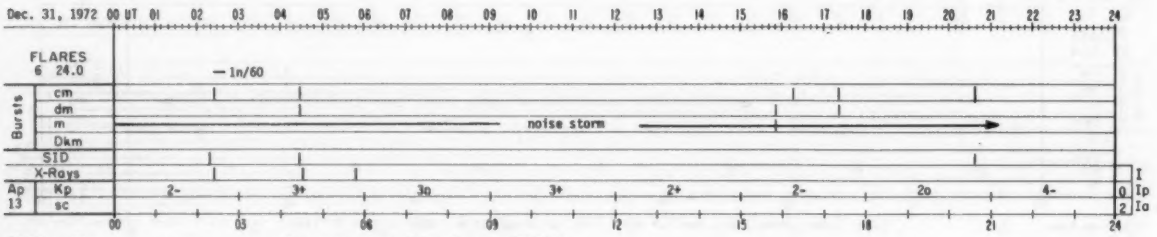



96 10 cm flux
25 Rz




95 10 cm flux
29 Rz
CMP (12161) N09
12154 N17

One of five most magnetically disturbed days, with slight-to-moderate activity.




98 10 cm flux
37 Rz
CMP 12155 N03 (2)
(12167) S18

Br. green corona 7 days later on NW limb.

# REGIONAL FLARE INDEX

**DECEMBER 1972**

| MC MATH PLAGE NO. | LAT | CMP DATE | DATE FIRST FLARE | DATE LAST FLARE | FLARE-INDEX SUM | FLARE-INDEX MEAN | TOTAL NO. OF FLARES |
|---|---|---|---|---|---|---|---|
| 12136 | N13 | 72/12/11.9 | 72/12/08 | 72/12/16 | 207.89 | 23.10 | 8 |
| 12139 | S18 | 72/12/15.7 | 72/12/12 | 72/12/16 | 18.00 | 3.60 | 3 |
| 12143 | S 6 | 72/12/18.8 | 72/12/15 | 72/12/19 | 261.07 | 52.21 | 6 |
| 12142 | N18 | 72/12/19.3 | 72/12/25 | 72/12/25 | 1.78 | 1.78 | 1 |
| 12144 | S 7 | 72/12/20.5 | 72/12/17 | 72/12/17 | 2.74 | 2.74 | 1 |
| 12145 | N17 | 72/12/21.4 | 72/12/25 | 72/12/25 | 5.46 | 5.46 | 2 |
| 12146 | S11 | 72/12/22.2 | 72/12/28 | 72/12/28 | 4.00 | 4.00 | 1 |
| 12149 | N16 | 72/12/23.7 | 72/12/23 | 72/12/27 | 112.41 | 22.48 | 10 |
| 12151 | S13 | 72/12/25.9 | 72/12/19 | 72/12/22 | 7.47 | 1.87 | 2 |
| 12153 | S15 | 72/12/27.5 | 72/12/28 | 73/01/02 | 31.41 | 5.23 | 6 |

Note:
The Regional Flare Index and count of flares in each region has in previous months included each maximum of a multi-maximum event. This has caused some regions to appear to be more flare producing than is probably warranted. Beginning with April 1972 only the principal maximum of a multi-maximum event will be used in the calculation. Also note that only the Confirmed Events as selected for the "I.A.U. Quarterly Bulletin on Solar Activity" are included in the calculation.

Because of differences in method of calculation, the dates of Central Meridian Passage for the McMath Plage Regions vary somewhat from those given elsewhere. Any region not listed here produced no confirmed flares during its disk passage.

# MISCELLANEOUS DATA

## Contents

Page

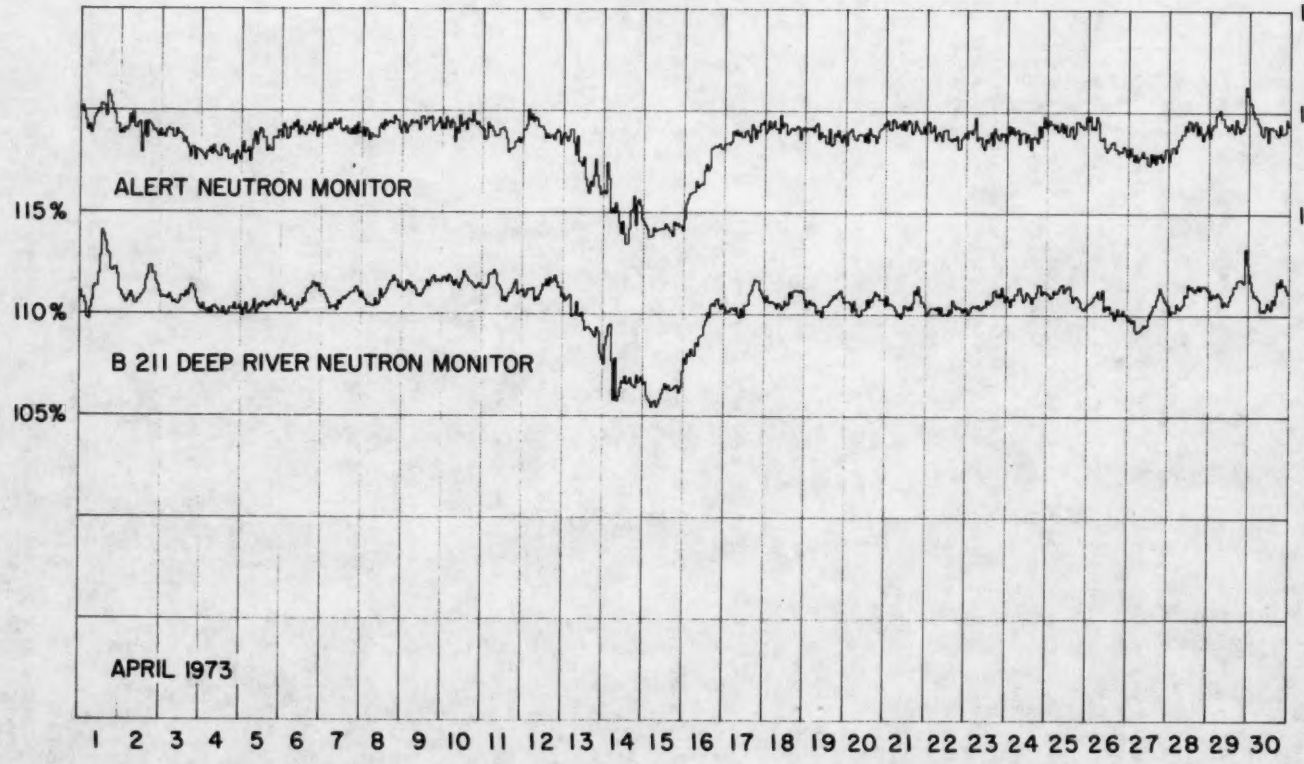
Cosmic Rays
Chart of Variations - Deep River and Alert,
and Deep River Super Neutron Monitor Daily Values-April 1973 55

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

## COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

APRIL 1973




DAILY AVERAGE
COUNTS PER HOUR

| | DEEP RIVER |
|---|---|
| 1 | 6875.5 |
| 2 | 6840.8 |
| 3 | 6819.0 |
| 4 | 6781.6 |
| 5 | 6791.4 |
| 6 | 6817.8 |
| 7 | 6816.5 |
| 8 | 6829.6 |
| 9 | 6853.3 |
| 10 | 6867.3 |
| 11 | 6850.9 |
| 12 | 6845.7 |
| 13 | 6750.0 |
| 14 | 6590.0 |
| 15 | 6532.3 |
| 16 | 6724.1 |
| 17 | 6806.7 |
| 18 | 6814.6 |
| 19 | 6804.3 |
| 20 | 6801.6 |
| 21 | 6799.3 |
| 22 | 6783.8 |
| 23 | 6807.1 |
| 24 | 6828.9 |
| 25 | 6827.4 |
| 26 | 6796.1 |
| 27 | 6772.3 |
| 28 | 6823.9 |
| 29 | 6846.1 |
| 30 | 6829.3 |

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(Prepared by World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado)

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Upper Atmosphere Geophysics Report UAG-9, "Data on Cosmic Ray Event of November 18, 1968 and Associated Phenomena" compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA, April 1970, single copy price 55 cents.

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